TEXAS SOUTHERN UNIVERSITY
JESSE H. JONES SCHOOL *of* BUSINESS

31st Annual Southwestern Business Administration Teaching Conference

February 22-23, 2024

Conference Theme:
"Pedagogies, technologies, and applications for the educational advancement- Make a better learning environment"

Conference Chair:
Dr. Mayur S. Desai, Professor of MIS

Conference Abstracts/Papers

TEXAS SOUTHERN UNIVERSITY
JESSE H. JONES SCHOOL of BUSINESS

Keynote Speaker

Dr. JoAnn Rolle

Dean School of Business, Medgar Evers College, City University of New York

Topic: Tech Enabled Futures: Elevating Education in Underserved Areas

Bauer School of Business, University of Houston

Paper Proposal for

Texas Southern University - Jesse H. Jones School of Business
31st Annual Southwestern Business Administration Teaching Conference

"Pedagogies, technologies, and applications for the educational advancement- Make a better learning environment"

A Multi-Faceted Approach to Teach EMBA Courses

The Bauer School of Business currently offers EMBA classes with a variety of features that we believe makes it more palatable to its students, as follows:

- Enhanced communication with a clear and detailed syllabus upfront that shows the material taught each week
- Case studies based on actual events lived through by the instructor. Experience has shown that, without being an integral member of the team that worked the case in the flesh, the instructor cannot convey the true nature of the event, and correspondingly the students' analysis will lack rigor.
- Regular presentations for current industry leaders, be they from Finance, Negotiations, Project Management, A&D (Acquisitions & Divestitures), Trading, Consultants, and others.
- Specific classes run by industry executives, and business consultants on a pro-bono basis.
- Individual business cases built by the students, either on a team or on an individual basis, based on actual situations. Those cases may be confidential in nature, in which case privacy is preserved between the professor and the student, without being shown to the class at large. However, they have to be actual with sufficient research that they can stand on their feet on a first pass. It is the role of the Professor to spend an hour every week or so with each student or team to guide them through the creation of these cases.
- Updated curriculum as a function of the class response and business maturity, during the semester and also year-to-year to take advantage of the learnings
- A flexible and honest environment such that students feel at home and can share in a trusted manner with their professors how the class contents affect their professional (or personal) lives.
- Linkage with conferences organized internally by the Bauer School of Business around topics that are prevalent to the class.

Students' feedback has shown that they appreciate the style, structured informality and close industry linkages that these classes offer.

USING SIMULATIONS FOR EXPERIENTIAL LEARNING IN ONLINE ASYNCHRONOUS BUSINESS COURSES: ADVANTAGES AND LESSONS LEARNED. A WORKSHOP IN EXPERIENTIAL LEARNING

Dr. Alan D. Lish
Department of Marketing & Entrepreneurship
University of Houston

"Experiential learning is a philosophy and methodology in which educators purposefully engage with students in direct experience and focused reflection in order to increase knowledge, develop skills, and clarify values." 1 It is also one of the most meaningful teaching techniques in business courses, as students get to test out or implement the concepts taught in classes. But how do you use experiential learning in online asynchronous business classes? By using online simulations. This workshop presents lessons learned in using online simulations in asynchronous business classes, both undergraduate and graduate classes. This presenter has used online simulations in business classes for over fifteen years, and has used them in both face-to-face, asynchronous and synchronous online classes. The workshop will explore the advantages (and disadvantages) of online simulations and present some ideas on how to use them in your classes, and the various techniques that can be employed to incorporate them. These range from simple, one-hour simulations for short graduate courses to semester-long simulations that require written submissions and analysis. The presenter uses four different simulations in both graduate and undergraduate courses and will explain and demonstrate how they reinforce the concepts in the course, create increased student engagement in asynchronous online courses, and improve overall learning. The workshop will consist of a power point presentation, examples from actual completed simulations, student submissions, followed by a working discussion and demonstration.

Retrieved from https://www.aee.org/what-is-experiential-education 1/30/2023.

Abstract

Collaborative Open Data Project Development with Working Professionals

Emese Felvégi (efelvegi@uh.edu), C.T. Bauer College of Business, University of Houston
Peter E. Felvégi, Entrepreneur, Operational Risk Professional

A business computer application faculty with a course of 2,220 annual enrollment shares the process of developing an open data project in collaboration with a risk management professional focused on open data pertaining to auto loans in the USA. Our practical case review highlights best practices and lessons learned about creating assignments to keep course content fresh and exciting for students with input from the workforce showing the value of leveraging personal and career counseling originated relationships.

Abstract

Developing Collaborative Online International Learning (COIL) Projects for Undergraduate Business Students Across Continents

Emese Felvegi (efelvegi@uh.edu), C.T. Bauer College of Business, University of Houston, USA and Péter József Lengyel (lengyel.peter@econ.unideb.hu), Faculty of Economics and Business, University of Debrecen, Hungary

Two faculty teaching business computer applications courses to undergraduates describe the process of developing a Collaborative Online International Learning (COIL) project building on open data regarding the digital divide from the Organisation for Economic Co-operation and Development (OECD). The presentation will walk attendees through the different phases of our project and the practicalities of creating engaging assignments for diverse learners.

31st Annual Southwestern Business Administration Teaching Conference
Texas Southern University
ChatGPT and Bloom's Taxonomy

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Raphael O. Boyd
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ABSTRACT
ChatGPT is a large language model that can be used for teaching educational content as well as for completing assignments and exams (Yu, 2023). Differences between AI Technologies and ChatGPT are presented as background information to further discuss the current uses and misuses of the tool. These uses include hybrid learning methods as well as educational assessment approaches that enrich students with diverse academic abilities. The misuse of ChatGPT includes academic dishonesty that warrants policies and regulations of the tool. Additionally, Bloom's Taxonomy (Armstrong, 2010) is used as a framework to discuss how ChatGPT can be used in the application, analysis, and synthesis of various learning content.

KEYWORDS: ChatGPT, AI Technologies, Bloom's Taxo

Generative AI and ChatGPT: Challenges and Opportunities in Education

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Abstract
Advances in Artificial Intelligence (AI) have resulted in computer systems that perform tasks usually done by human beings. One of the applications of AI is Machine Learning (ML) which focuses on statistical methods and data classification to identify patterns of data, predict outcomes, and further develop self-intelligence. Another application of AI is based on the Large Language Model (LLM) that utilizes enormous data sets to mimic the human brain's learning processes to recognize and summarize composite patterns in content to generate new content.

Generative Artificial Intelligence (GenAI) uses LLM to generate new content including text, images, music, videos and more. GenAI technologies and tools continue to impact all sectors of the economy by manifesting in and revolutionizing industries such as finance, marketing, advertising, healthcare, pharmaceuticals, and education. Many employers are actively incorporating GenAI tools such as ChatGPT, Bing, Brad AI, and Gasper in consumer-facing applications to reduce costs while boosting productivity.

ChatGPT is one of the fastest-growing consumer technologies in history that impacts education. Its popularity and utilization by students and faculty alike is revolutionizing education. The potential applications of GenAI tools such as ChatGPT in education is increasingly promising. Even with ChatGPT's limited abilities and concerns for plagiarism, educators and students alike are embracing the technology to enhance teaching pedagogy and learning processes. In fact, according to a survey by McGraw Hill Education, 35% of students report using GenAI ChatGPT and chatbots[1] to help with their coursework. Furthermore, a recent study by Tyton Partners sponsored by Turnitin suggests 22% of faculty used generative AI technologies as of September 2023[2].

This article discusses the potential opportunities and challenges associated with integrating GenAI tools and technologies, such as ChatGPT, into educational settings. The authors explore how GenAI tools can enhance learning experiences, facilitate personalized instruction, and support educators in various educational contexts. Additionally, it delves into the potential challenges and ethical considerations that need to be addressed when implementing such technologies in educational environments.

Keywords: Artificial Intelligence (AI), ChatGPT, Education, Generative AI (GenAI), GenAI Tools, Large Language Model (LLM), Machine Learning (ML)

[1] https://www.mheducation.com/news-insights/blog/mcgraw-hill-study-trends-report.html
[2] https://tytonpartners.com/app/uploads/2023/10/GenAI-IN-HIGHER-EDUCATION-FALL-2023-UPDATE-TIME-FOR-CLASS-STUDY.pdf

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Texas Southern University at the 31st[h] Annual Southwestern Business Teaching Conference (SWABTC-24)

Title: "Empowering Student Learning: Harnessing AI Tools for Collaboration, Comprehension, and Problem-Solving"

Abstract:

The integration of AI tools like Microsoft Copilot and SAP Signavio holds immense potential for enriching the student learning experience. Ethical considerations regarding responsible tool usage and ownership of AI-generated content are paramount for safeguarding intellectual property rights. Incorporating Copilot and Signavio into educational settings fosters dynamic learning environments, nurturing essential skills for academic and professional success.

Microsoft Copilot, designed to enhance coding efficiency and collaboration among software developers, seamlessly integrates into Microsoft Office productivity tools. In contrast, SAP Signavio focuses on optimizing business processes, data visualization, and modeling and analysis. Despite their distinct focuses, both tools leverage technology to enhance productivity and decision-making in their respective domains.

In education, the convergence of Copilot and Signavio offers innovative approaches to promote comprehension, collaboration, and problem-solving among students. Copilot, powered by AI, facilitates coding by providing code snippets, documentation, and real-time feedback, accelerating students' understanding of coding principles and error troubleshooting. Signavio's process visualization capabilities aid comprehension of complex systems and workflows.

Both tools foster collaborative learning experiences, allowing students to work together on coding projects or process modeling tasks. Copilot's AI-driven features adapt to individual learning styles, offering personalized suggestions and resources, while Signavio's analytics track progress and provide tailored feedback for improvement.

Integration with Learning Management Systems (LMS) simplifies tool adoption and progress tracking for educators. Real-world application of Copilot and Signavio exposes students to industry-standard tools, enhancing their employability and readiness for the workforce.

Accessibility and inclusivity are prioritized, benefiting students with diverse needs. Copilot's natural language processing capabilities and Signavio's intuitive interface enhance accessibility for all students. Educators can utilize feedback from student interactions with Copilot and Signavio to refine teaching strategies, providing a comprehensive learning experience in cutting-edge technologies.

Microsoft 365 Copilot seamlessly integrates into daily workflows, empowering creativity and productivity.

In Word, Copilot functions as a versatile writing assistant, generating drafts, refining content, and suggesting tone adjustments. In Excel, Copilot serves as an intelligent data analysis companion, providing insights and recommendations tailored to natural language queries.

We must ensure that the integration of AI tools in education does not widen the existing achievement gaps. This requires active participation of all stakeholders in the design of future learning environments, for instance, assessing a student's readiness for more challenging tasks will still necessitate the expertise of educators with high professional and ethical standards. It's important to acknowledge that while AI holds the potential to address systemic injustices in education globally, it also poses significant risks. Therefore, learners, educators, and society as a whole must exercise caution when introducing AI into educational settings.

List of key words used in the abstract:

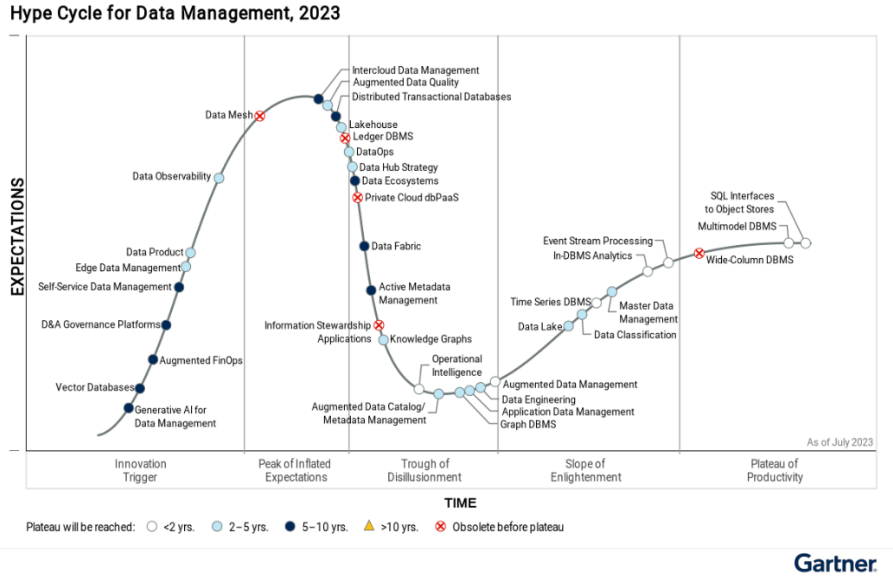
AI tools
Microsoft Copilot
SAP Signavio
Student learning
Collaboration
Comprehension
Problem-solving
Ethical considerations
Ownership
Intellectual property rights
Education
Coding
Productivity
Decision-making
Integration
Learning Management Systems (LMS)
Real-world application
Accessibility
Inclusivity
Natural language processing
Feedback
Creativity
Productivity

On Vector Databases and AI

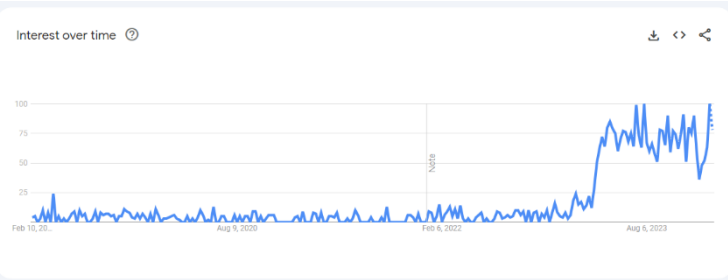
Marion Smith (Texas Southern University)

Introduction

As organizations manage and try to make efficient use of their data, they are motivated to identify trends in the use of data and the technologies that store their data. Recent excitement and hype about AI have made ChatGPT and Bard well-known. As a result, many organizations recognize the potential use of these technologies to support their organization's business processes. ChatGPT and Bard are machine learning systems known as generative AI that can generate "text, images, code or other types of content, often in response to a prompt enter by a user". When reviewing Gartner's Hype Cycle for Data Management, 2023, we observe Generative AI for Data Management trailing Vector Databases in the Innovation Trigger of the Hype Cycle.



The interest in vector databases has quadrupled since ChaptGPT was introduced on Nov. 30, 2022 as shown in the graphic. This paper will discuss broad topics related to the connection between AI and vector databases.



Vectors

To understand the role of vector databases, a brief description, and the motivation of the use of vectors is discussed in this section. Data is either structured or unstructured. Structured data is usually stored in a relational database, or a spreadsheet. Structured data is characterized by its organization into tables – a logically organized data structure of rows and columns. Unstructured data, on the other hand, cannot be organized into a pre-defined structure or schema. It is easy to compare instances of structured data, whereas it is difficult to compare instances of unstructured data. For example, order dates of sales transactions are easy to compare, whereas it is difficult to compare medical notes.

Vectors are used to give structure to unstructured data. A vector is simply an n-dimensional object that consists of a set of ordered real numbers. Most of the readers of this document are familiar with 2-dimensional vectors known as x-y coordinate pairs. A vector representing a color on an LED monitor, is a 3-dimensional vector where the coordinates represent the amount of red, green, and blue. Notably, a vector has a direction and a magnitude when we assume an origin in the n-dimensional plane. Another feature of

vectors is what is known as vector operations. Vector operations are analogous to mathematical operations on real numbers such as addition and subtraction. When comparing vectors, vector operations can be used to find the direction of one vector so that it can be compared to the direction of another vector. One such measure is called the cosine distance. Or, as a measure of their similarity, vector operations can be used to find the distance between two vectors. The distance between vectors can be measured in a few ways --- Euclidean distance, Manhattan distance, and dot product.
In short, vector operations are used when comparing images or text to determine how alike or different they are. Think of facial recognition … how similar is an image of a face that has been vectorized to a vectorized image stored in the database … the vector database. Or how similar is a vectorized sentence to another vectorized sentence? How similar is a vectorized color to another vectorized color?

Vectorization
Vectorization is the process of transforming an object into a vector. An example of text-to-text search occurs when you search your email for specific text. Ater some text is transformed into a vector, you can search for the text within documents using a text query known as text-to-text search.
Vectorization of text or converting some text to a set of real numbers is called "Word Embeddings". Google has an example on vectorization using N-Grams and then assigning indexes to the n-grams. An n-gram is a sequence of n adjacent words in a particular order.
Here is an example. First, I create n-grams from the sentence, "My name is Marion."
Unigram [My, name, is, Marion]
Bigram [My name, name is, is Marion]
Trigram [My name is, name is Marion]

Next, I assign an index for every token. Since there are 9 n-grams, 9 indexes are required. In the set, for example, the word 'My' is given an index of 1.

{'My': 1, 'name': 2, 'is': 3, 'Marion': 4, 'My name': 5, 'name is': 6, 'is Marion': 7, 'My name is': 8, 'name is Marion': 9}

Finally, an algorithm is used to quantify the importance of a string of words in a document. One common algorithm is TF-IDF that stands for *Term Frequency-Inverse Document Frequency*, see Understanding TF-IDF for Machine Learning.

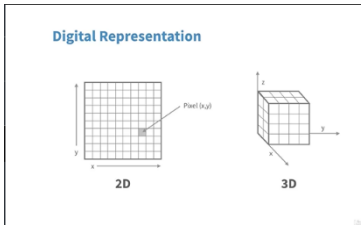
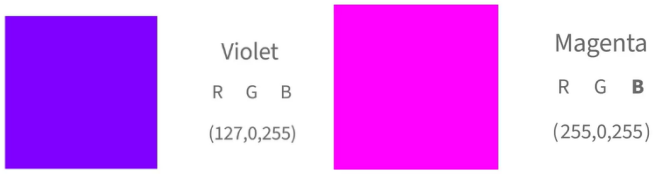
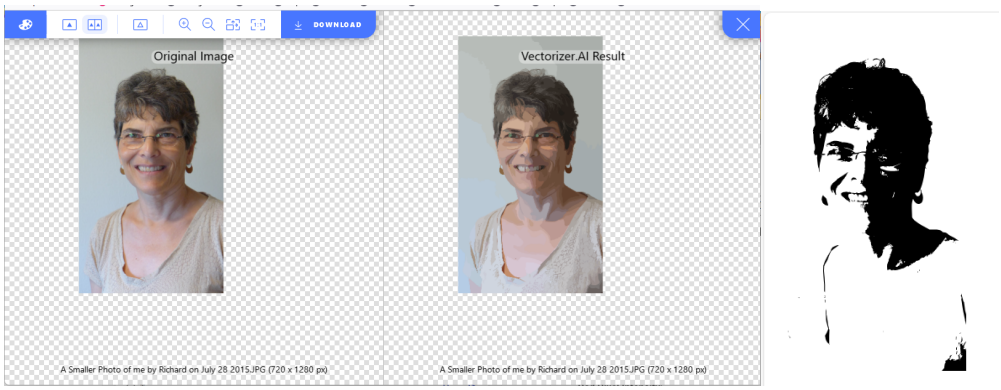


Figure 1 A two dimensional gride. Each grid contains a red, green and blue code.

Vectorization of an image involves converting an image viewed on a LED monitor to a vector. This is done by dividing the image into a grid with many cells on the image and assigning a color in 3-dimensional vector to a cell on the grid. Each cell has a location on the grid, and each grade has a color associated with it. For example, here are pixels with the colors magenta and violet that are represented by 3-dimensional vectors where the amounts of red, green, and blue are quantified. See RGB Color Codes Chart.



Here is an example of an image that has been vectorized once using vectorizer.ai and again with https://convertio.co/.



Vector Formats

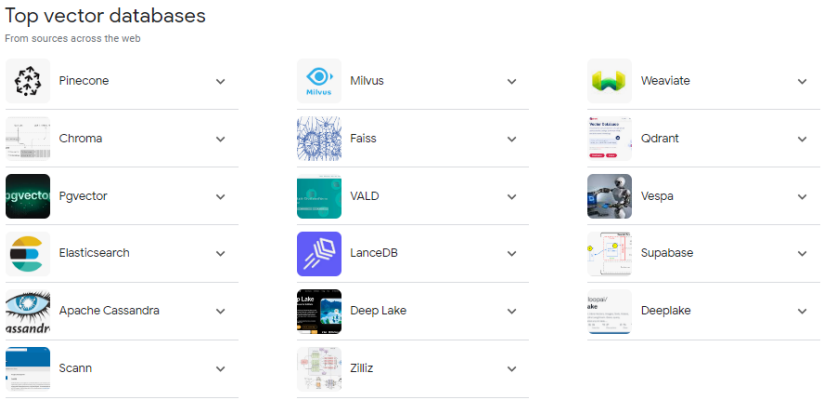
After an image is vectorized, you need to store the vector. There is more than one file type that can be used to save a vector. For example, convertico.co offers 11 different formats. The SVG format is the scalable vector graphics format. You can use this format when images are to be displayed on a web page. "SVG is an XML-based markup language for describing two-dimensional based vector graphics" according to mozilla.org. The <g> SVG element is an html tag that is used as a container used to group other SVG elements. Here is a partial view of the xml generated by https://convertio.co/

```
<?xml version="1.0" standalone="no"?>
<!DOCTYPE svg PUBLIC "-//W3C//DTD SVG 20010904//EN"
 "http://www.w3.org/TR/2001/REC-SVG-20010904/DTD/svg10.dtd">
<svg version="1.0" xmlns="http://www.w3.org/2000/svg"
 width="720.000000pt" height="1280.000000pt" viewBox="0 0 720.000000 1280.000000"
 preserveAspectRatio="xMidYMid meet">

<g transform="translate(0.000000,1280.000000) scale(0.100000,-0.100000)"
fill="#000000" stroke="none">
<path d="M4226 11175 c-3 -8 -12 -15 -21 -15 -8 0 -26 -10 -39 -21 -24 -21
-25 -46 -2 -61 6 -4 8 -10 4 -13 -4 -4 -21 7 -38 24 -31 29 -50 33 -50 10 0
-6 5 -7 10 -4 16 10 41 -22 45 -58 3 -22 2 -28 -5 -17 -13 21 -19 9 -23 -43
-2 -34 -11 -55 -32 -81 -32 -39 -80 -51 -68 -18 4 11 -3 7 -20 -10 -27 -29
-47 -36 -47 -17 0 5 -4 7 -10 4 -14 -9 -13 18 2 33 6 6 8 15 4 19 -4 5 -16 -3
-27 -16 -13 -16 -19 -18 -19 -8 0 9 -10 15 -25 15 -17 0 -25 -6 -25 -19 0 -29
-41 -35 -62 -9 -10 13 -21 21 -23 18 -3 -3 6 -17 20 -32 14 -15 22 -32 18 -39
-4 -7 -10 -3 -16 11 -12 27 -24 28 -32 2 -5 -16 -9 -17 -19 -7 -11 10 -11 14
2 23 11 8 12 13 4 18 -7 4 -12 2 -12 -3 0 -6 -9 -11 -21 -11 -13 0 -18 4 -13
12 4 7 3 8 -4 4 -7 -4 -12 -18 -12 -32 10 -24 -21 21 c-18 18 -22 33 -20 78 0
34 -2 51 -7 43 -11 -16 -43 44 -35 65 3 7 1 19 -5 26 -8 9 3 22 41 51 33 24
43 36 28 31 -14 -4 -42 -20 -64 -36 -30 -21 -43 -26 -53 -18 -9 8 -15 5 -23
-9 -12 -23 -55 -34 -72 -18 -9 8 -10 8 -6 0 4 -7 -4 -14 -21 -17 -32 -6 -140
1 -162 10 -23 9 -134 2 -141 -9 -4 -6 -11 -8 -17 -4 -13 8 -103 -35 -96 -46 3
-4 -4 -8 -15 -8 -12 0 -21 -6 -21 -13 0 -8 -6 -14 -12 -14 -22 -1 -200 -63
-256 -89 -29 -14 -50 -29 -47 -34 15 -24 -54 -67 -97 -61 -5 0 -5 -8 1 -38 1
-2 9 3 18 10 15 13 15 11 -1 -13 -10 -15 -40 -35 -72 -48 -35 -14 -53 -27 -50
-35 3 -10 -13 -13 -66 -12 -45 1 -73 -3 -75 -10 -2 -6 -29 -19 -59 -29 -68
```

Vector Databases

According to Google Cloud, A **vector database** is any database that allows you to store, index, and query vector embeddings, or numerical representations of unstructured data, such as text, images, or audio. Vector embeddings are simply representations of structured data such as text. Vector databases can measure the similarity between two pieces of text. Here we similarity refers to the closeness in meaning of the text. The importance of vector databases resides in their ability to add in solving problems that relational databases and text search techniques cannot solve by themselves. They are useful for generative AI applications because they make it easy to retrieve unstructured business specific content through user queries. Recent Google search on popular vector databases return the following "Top vector databases."



In conclusion we have discussed how AI and vector database technologies work together. These new AI vector databases answer queries written in natural language and through vectorization, and the machine learning models do more than text searches. One text, audio, or an image is vectorized, the vector database can be used to search for similar objects. As we have seen, this technology is already being used to power solutions in industries like e-commerce, social media, and many more.

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THE IMPACT OF ARTIFICIAL INTELLIGENCE (AI) IN HIGHER EDUCATION

BOSEDE O. AIRHIA

Artificial Intelligence (AI) is transforming the mechanisms of higher education by introducing innovative solutions that enhance the learning environment. The advent of Artificial Intelligence in academia has drastically changed how students engage with information. AI encourages innovative thinking and creative approaches to problem solving by continuously engaging and challenging students. Additionally, it takes into consideration the drawbacks of standardization in learning and creates a technique that emphasizes learning customization, thereby promoting personalized learning experiences for students. Research has proven the critical role of AI through Intelligent Tutoring Systems (ITS) in student competency and advancement. AI is disrupting the educational landscape by improving retention and comprehension, enabling evaluation and feedback, and offering personalized guidance.

The aim of this study is to evaluate the impact of AI on higher education by conducting a literature review of 15 sources and surveying undergraduate and graduate students in Texas Southern University. However, the researcher will also study the limitations, such as bias, over-reliance on technology, reduced human interaction, and ethical concerns like data privacy and equitable access. To combat these risks, the researcher will propose strategies to ensure the ethical implementation of AI technologies for students.

Keywords: Artificial Intelligence (AI), Personalized Learning, Intelligent Tutoring Systems (ITS)

Use of AI in higher education

Swati Basu (University of Houston)

As Artificial Intelligence (AI) such as OpenAI, ChatGPT and other generative AI models continue to become a trend in driving productivity in every aspect of our lives, it will also have a profound impact both beneficial and challenging in higher education.

AI integration in higher education is anticipated to have both positive and negative impacts. If applied well, AI tools can enable personalized learning and foster an environment for critical thinking and will transform educators from knowledge transmitter to guides. It will provide interactive learning environments that can improve student engagement and performance.

However, despite the likely permanence of AI in higher education y, there are concerns about reliability and ethical implications of AI in an education setting as generative AI currently can lack context and accuracy. Lack of regulation around AI usage at institutions can also encourage misuse.

Institutions can offer guidelines and resources to faculty and allow them to determine how to integrate AI into their classrooms and assignments.

OER Textbooks: A Pedagogy to Improve the Learning Environment

Kurt Stanberry, Professor, Davies College of Business, UHD; stanberryk@uhd.edu

Abstract

What sets OER textbooks apart from commercial textbooks and other commercial teaching resources? OER books are free: free to access, free to reuse, free to revise, free to remix, and free to distribute. Additionally, OER textbooks are easy: easy to select, easy to update, easy to make interactive.

The question becomes, then, what is the relationship between these additional capabilities and effective teaching and learning? How can faculty extend, revise, and change teaching pedagogy based on these capabilities?

There are multiple pedagogical reasons why using an OER textbook is a good idea. OER textbooks are flexible, a faculty member can use whatever portion of the book they want to use, and they can combine/add content from other OER books/materials. OERs give faculty the ability to customize course materials, creating the "perfect" course packet or textbook instead of being bound to a traditional one-size-fits-all model. Customization gives faculty control over the quality of their course materials as well as the type and timing of updates to textbooks and other resources. Additionally, most OER textbooks have import/export cartridges for easy use in Blackboard, Canvas, and other LMS systems such as D2L. OER textbooks are engaging because they are interactive. There are easy to click on links to YouTube videos, periodical articles, and other features that make the book come alive. Students are more engaged.

OER textbooks are very easy to preview for potential use in a course, there's no permission needed, no phone call, no email, no sales staff. It's as simple as going to the OER website and clicking on the textbook a faculty member wants to preview.

The advantages for students are multiple. Most students find OER texts easy to use, with interactive features such as word search, highlighting, margin notetaking, and other functions students like. OER publishers also frequently offer tutoring and have arrangements with educational tech software companies.

OER texts are the most direct way an individual faculty member can contribute to improving access, and thus increasing the opportunity to succeed for all students. When faculty use OER textbooks, that decision is directly impacting that student's ability to enroll in, persist through, and successfully complete a course. In other words, it is directly impacting that student's ability to attend, succeed in, and graduate from college. When talking about OER, it brings into focus two things; one is that access is critically important to conversations about academic success, and the other is that faculty can play a critical role in the process of making learning accessible.

Thus in conclusion, OER textbook are a way to take advantage of technology to offer improved pedagogies, potentially resulting in a better learning environment.

How can we use AI as a teaching tool for an introductory business programming course in higher education?

Dale Fontenot, Feroz Ahmed, and Asha Moni Mistry

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Abstract: Artificial Intelligence (AI) is a computer program that learns through an observable process of human intelligence with the use of a large data set. It extends the biological limitations of human thought with calculated aspects. According to Stuart Russell and Peter Norving in Artificial Intelligence: A Modern Approach (1995), artificial intelligence can rationalize and think vs. act with a human approach that is ideal for computing. In 1950, Alan Turing first asked the question, can machines think? Thus began the decades-long attempt at creating artificial intelligence that could pass the Turing test. The public release of ChatGPT at the end of 2022 caused a major technology disruption in all industries but none were hit harder than the education sector. Overnight, all levels of education were impacted. In the recent work of Farrokhnia et al., (2023), the authors point out that with the introduction of ChatGPT in education, many issues have been raised, both good and bad. They point out that while some educators praise the tool for the good it can do in education, many others fear that the tool will have a detrimental impact on education. Some of the opportunities the authors point out are increasing accessibility of information, the facilitation of personalized and complex learning, and a potential decrease in teaching workload. In addition to these opportunities though, the authors also point out several threats with the use of ChatGPT in education. One of the major threats is the total lack of understanding of the content. Along with that lack of understanding comes a threat of reduced academic integrity.

The authors' last point in the threats of generative AI is the most complete, that is the decline in humanity's high-order cognitive skills. With OpenAI's continued development of ChatGPT and with other large language models (LLM) tools being built daily, can AI tools enhance the learning process and provide students with the best practical skills needed for the workforce of tomorrow? This paper will focus on

generative AI tools and their usage as a learning tool to help teach programming to management information students.

The paper's brief literature review focuses on AI's works for teaching introductory business programming courses in higher education along with a complete list of essential tools and a walk-through of those tools to assist with teaching programming in the classroom. Current AI tools can be a blessing for higher education but what seems to remain as the larger question is will the knowledge gained from using AI to learn to program outweigh the ability for a student to generate code and not understand that code at all?

This paper will also review and analyze several AI-powered coding assistants like GitHub Copilot, Divi AI, Tabnine, and Amazon CodeWisperer and try to determine if these tools can help students with code completion and error detection. Using generative AI, can the students create real-time projects with AI-integrated tools like simple chatbots, task reminder tools, and grade reminders but more importantly, will the students retain the knowledge that is provided by these tools? Can we introduce simple coding projects to enhance their knowledge and working capability with AI and some base knowledge be retained? This paper hypothesizes that these AI-based learning modules will help students develop future AI applications for a better future while fostering teamwork, and problem-solving skills and expose students to different perspectives in approaching business challenges.

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Farrokhnia, M., Banihashem, S. K., Noroozi, O., & Wals, A. (2023). A SWOT analysis of ChatGPT: Implications for educational practice and research. *Innovations in Education and Teaching International*, 1-15.

The Importance of Focusing on Care and Quality in the Pharmacy

Neesha Desai, PharmD

Agenda

- Introduction
- Quality and Care
- Opioid Crisis
- Conclusion

Dispensing Errors

" Each year, in the United States alone, 7,000 to 9,000 people die as a result of medication error. Additionally, hundreds of thousands of other patients experience but often do not report an adverse reaction or other medication complication. The total cost of looking after patients with medication-associated errors exceeds $40 billion each year. In addition to the monetary cost, patients experience psychological and physical pain and suffering as a result of medication errors. Finally, a major consequence of medication errors is that it leads to decreased patient satisfaction and a growing lack of trust in healthcare system."

Tariq et al "Medication Dispensing Errors and Prevention" (Stat Pearls Publishing, 2023 Jan, National Library of Medicine

Wittich CM, Burkle CM, Lanier WL. Medication errors: an overview for clinicians. Mayo Clin Proc. 2014 Aug;89(8):1116-25. [PubMed: 24981217]

Whittaker CF, Miklich MA, Patel RS, Fink JC. Medication Safety Principles and Practice in CKD. Clin J Am Soc Nephrol. 2018 Nov 07;13(11):1738-1746. [PMC free article: PMC6237057] [PubMed: 29915131]

"The most common reasons for errors include failure to communicate drug orders, illegible handwriting……confusion over similarly named drugs, confusion over similar packaging between products, or errors involving dosing units or weight. Medication errors may be due to human errors, but it often results from a flawed system with inadequate backup to detect mistakes."

Tariq et al " Medication Dispensing Errors and Prevention", (Stat Pearls Publishing,

2023 Jan, National Library of Medicine

Ibrahim OM, Ibrahim RM, Meslamani AZA, Mazrouei NA. Dispensing errors in community pharmacies in the United Arab Emirates: investigating incidence, types, severity, and causes. Pharm Pract (Granada). 2020 Oct-Dec;18(4):2111. [PMC free article: PMC7603657] [PubMed: 33149793]

Zirpe KG, Seta B, Gholap S, Aurangabadi K, Gurav SK, Deshmukh AM, Wankhede P, Suryawanshi P, Vasanth S, Kurian M, Philip E, Jagtap N, Pandit E. Incidence of Medication Error in Critical Care Unit of a Tertiary Care Hospital: Where Do We Stand? Indian J Crit Care Med. 2020 Sep;24(9):799-803. [PMC free article: PMC7584841] [PubMed: 33132563]

" Dispensing errors can cause preventable patient harm such as adverse drug events, hospitalization, or death……The worldwide prevalence of dispensing errors was 1.6% across community, hospital, and other pharmacy settings."

Reference:

National Library of Medicine: Irene S Um, et al " Dispensing error rates in pharmacy: a systemic review and meta-analysis"; Res Social Adm Pharm. 2023 Oct 11: S1551 -7411(23)00455-2.doi

Love & Care from our Parents

Growing up, our parents gave us medicines and often, home remedies when we got sick. Whether it was the old warm saltwater gargle or a dose of Tylenol, they did it with love and care, and it worked.

As pharmacists, we want to provide the same love and care to your patients.

Paying close attention to quality care and ethical practices while serving patients is crucial.

**Treat patients with same level of care

How?

Maintain high quality services

Practice good ethics

Treat patients like you would treat your family

Ethics & Quality are Intertwined
If ethics fail, quality fails
Technology is only a supporting tool and facilitator in the pharmacy
Pharmacies still requires human intervention
Pharmacists physically verify every aspect of a Rx before it gets sent out to the patients
Entire staff who cares for quality and care is required to run a successful pharmacy
Good Ethics + Quality = Good Care
Ethics & Quality are Intertwined
True efficiency requires a pharmacy TEAM that values ethics and quality to provide patient care
Positive values are critical to eliminate dispensing and medication errors save lives
Managing values and ethics is a challenging task
Innate vs. taught

Four Dimensions of Quality
Accuracy
Completeness
Consistency
Conformity

Accuracy
Correct directions on label
Correct pills
Accurate quantity of pills & strength of medication
Correct patient name on label
Verify medication is not expired
Mail-order pharmacies - verify patient address (if incorrect, violated HIPAA and leads to legal issues)
And others

Completeness
Details that patient needs to know regarding dispensed medication(s)
Consistency
Treat every patient equally with same care
Conformity
Follow rules of The Board of Pharmacy

Ensures quality care and good ethics
Retail Pharmacy Framework

Retail Pharmacy Framework
Importance of proper communications between internal and external staff
Communications should be accurate, detailed and with good ethics to ensure quality care to patients

Dispensing Opioids, Benzodiazepines & Other Controlled Substances
Centers for Disease Control and Prevention: "The number of people who died from a drug overdose in 2021 was over six times the number in 1999. The number of drug overdose deaths increased more than 16% from 2020 to 2021. Over 75% of the nearly 107,000 drug overdose deaths in 2021 involved an opioid."

CNN: "There were 111,355 overdose deaths in the 12-month period ending April 2023, compared with 110,394 deaths in the 12-month period ending March 2022."

Dispensing Opioids, Benzodiazepines & Other Controlled Substances
Crucial to check the Prescription Monitoring Program before dispensing opioids, benzodiazepines and certain narcotics
Can only be prescribed by doctors and used by patients with legitimate reason
Can only be used within certain limitations - certain combinations of these medications are unsafe and can lead to death, especially when abused
Opioids include, but not limited to: hydrocodone, oxycodone, oxycontin, morphine, fentanyl, methadone

Benzodiazepines include, but not limited to: diazepam, clonazepam, alprazolam
Dispensing Opioids, Benzodiazepines & Other Controlled Substances
An interesting study/article:
Janssen, Aljoscha, and Xuan Zhang. 2023. "Retail Pharmacies and Drug Diversion during the Opioid Epidemic." *American Economic Review*, 113(1): 1-33.
"This study investigates the role of retail pharmacy ownership in the opioid epidemic. Using data of prescription opioid orders, we show that compared with chain pharmacies, independent pharmacies dispense 39.1 percent more opioids and 60.5 percent more OxyContin. After an independent pharmacy becomes a chain

pharmacy, opioid dispensing decreases. Using the OxyContin reformulation, which reduced nonmedical demand but not the legitimate medical demand, we show that at least one-third of the difference in the amount of OxyContin dispensed can be attributed to nonmedical demand. We show that differences in competitive pressure and whether pharmacists own the pharmacy drive our estimates."

Dispensing Opioids, Benzodiazepines & Other Controlled Substances
"Good Faith Dispensing" – pharmacist should make sure controlled substance is being dispensed for legitimate medical purpose
What to look for on prescriptions and PDMP
Opioid plus benzo combination (cocktail)
Multiple prescribers prescribing the medications

Polypharmacy
Distance between patient address to pharmacy and pharmacy to doctor's office
And other factors that require good professional judgement

Customer Service Skills
Always practice good customer service
Be personable - smile and acknowledge customers in a friendly manner
Challenge can be not having adequate support staff that can communicate with customers
How to provide wait times and pick up times
How to use positive tones with customers
How to use positive phrases like "thank you for your patience"

Support Staff Responsibilities
Time management skills for support staff ensures sufficient time for pharmacists to care for patients
Inexperienced and/or insufficient support staff can lead to pharmacists taking on technician responsibilities, which takes away from pharmacists' focus on patient care duties

Patient Counseling
Be thorough
Ask patients questions before making recommendations.

Example: When a patient comes in with congestion, find out if they have high blood pressure before recommending a pseudoephedrine
Example: If a patient comes in with a cough, find out if it is a dry or wet cough; find out if the patient has any other diseases that might be causing the cough (note: coughs can be due to heart-related issues)

Patient Counseling
Each patient is different, so responses and recommendations cannot be generic
Example: Claritin is labeled "Non-drowsy," but some patients experienced drowsiness after taking it
Symptoms result from various causes – gather pertinent information from patient and/or reliable caregiver prior to recommendations
Body chemistry varies – a medication works for one patient but not another

Conclusion
Quality care is necessary
Treat patients with care and compassion
Practice good ethics
Efficiency is crucial in a high-demanding profession
Understand the importance of the entire pharmacy team
Effective communication is key for a successful pharmacy and patient care

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National Library of Medicine: Irene S Um, et al " Dispensing error rates in pharmacy: a systemic review and meta-analysis"; Res Social Adm Pharm. 2023 Oct 11: S1551 -7411(23)00455-2.doi

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Janssen, Aljoscha, and Xuan Zhang. 2023. "Retail Pharmacies and Drug Diversion during the Opioid Epidemic." *American Economic Review*, 113(1): 1-33.

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An Action Research Use Cases of Digital Badges at a University

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Keywords: *digital badges, issuing and awarding badges process, Badgr, Moodle, Canva.*

Abstract

The digital badge initiatives are often costly and require much effort and resources. This paper presents use cases of digital badges through action research. It describes an overview of digital badges, the required components to create and issue digital badges, the process involved, and their uses in a university setting. Specifically, the use cases demonstrate how chosen technologies were used, what events were involved, and how the entire process was carried out in step by step. The author shares his own experience with the hope of encouraging others to try launching digital badges as a DIY project.

Introduction

According to IMS Global Learning Consortium, there was an 80% increase in badges issued from 2018 to 2020. Additionally, according to their 2020 Badge Count report, 43 million badges have been issued and 475,000 badges are available to be earned. (Aronovich, 2022). One of the reasons for such a quick growth is because students need a robust way to demonstrate their competences, accomplishments, and/or new developed skills. Digital badge seems to offer a perfect solution that brings together a student as a badge recipient, a school as badge issuer, and an employer as a badge validator or reviewer. Ascury university is the case in point. On its webpage, it touts that "Badges often give more information to potential employers than a transcript because they show the commitment that adult learners and badge earners give to lifelong learning including ongoing professional development." (Martin, 2023)

Typically, digital badge initiatives in the higher-ed focused mainly at three levels: individual course, department, college/university. Most of them required a substantial budget, dedicated staff, and intensive campaign to get faculty buy-in. Is there an alternative to this approach? Specifically, can a digital badge initiative be done on a smaller scale, with limited budget and resources, and cater to non-curricular activities? In other words, can setting up and using digital badges be Doing-It-Yourself (DIY) project.

The purpose of this paper is to give an overview of digital badge, to share use cases of digital badge and my own experiences with digital badge. The focus is to look at the feasibility of the Doing-It-Yourself aspects of a digital badge project. In this paper, I will provide an alternative to the costly digital badge platform. It can be done by an individual instructor, a group of instructors, or a department without a significant cost.

This paper is organized as follows:
First, it provides a context for launching a digital badge. Secondly, it describes the technologies in use. Thirdly, it presents the entire process from designing a badge to issuing a badge. Finally, it concludes with some thoughts, lessons learned, practical implications, and future direction.

Background on digital badges
What are digital badges? Badges have been quite common for representing special accomplishments or serving as symbols of authority, status, identification. As technology advances, badges are designed and used in digital format. Similar to physical badges, digital badges can be viewed as a validated indicator of accomplishment, skill, quality or interest that one earns through completing a task or participating in an activity or learning a topic. However, digital badges are much more flexible, versatile, and robust than their physical counterparts due to their embedded information and easy accessibility.

Like its counterparts in physical form, digital badges' main purpose is to showcase one's skills, accomplishments, or recognitions. Yet, instead of gleaning through a line of text on a resume or showing an actual paper or badge, digital badges in practice are linked to a much deeper level of information. For instance, from a digital badge, it is possible for a reviewer to display a complete profile of a given badge including its criteria, its issuer, its relevance to a specific skill or accomplishment. In some cases, it may also show a portfolio or a documentation of the work. All of this information is verifiable and can be accessed, viewed, and verified at any time and in any place. What are needed to create and use a digital badge? What are the components in a digital badge environment?

Since a digital badge is essentially an image, the first component needed is an application to design and create an image. There are a wide range of graphic applications available from a simple app such as Paint to advanced professional applications such as Photoshop, from a choice of cloud-based SaS such as Canva to conveniently access mobile device apps such as Sketchbook. Any one of these choices is good for creating an image for a digital badge. The most common format for a digital badge is PNG because it shows with a transparent background. My

recommended application is Canva (https://www.canva.com/) because it offers a free account with sufficient capabilities to get started. Furthermore, Canva provides ready-to-use templates that users can adopt and use even without any prior skill or experience in graphic design.

The second component needed is a digital badge platform. The platform's main functions are to turn a simple image into a digital badge, to set up and manage badges, and to integrate with other badge showcase venues. Among the popular digital platforms are:Credly, Suitable, Portfolium, OpenBadges.me, and Badgr. The platform presented in this paper is Badgr. More details will be presented in the subsequent section.
The last component in a digital badge environment is the showcase venues. After a digital badge is created and set up properly, it is ready to be issued. A digital badge can be issued manually or automatically once certain conditions are met. In this step, the digital badge platform normally would work with the badge showcase venues. These venues can be a website, a social media site, a content management system, or a student learning environment. In this paper, the issuance of a digital badge is set to connect to Moodle (a classroom content management system). Once, a proper integration between a digital badge platform and a showcase venue is done, a digital badge will be displayed and accessed by users. Although a digital badge is an image, it has a link to all relevant information associated with the image. This drill down feature is one of the key capabilities that make digital badges far more superior than a resume. A digital badge can show more information, can be validated and verified, can offer links to a portfolio as well as other evidence of skill acquired, knowledge learned, or accomplishment earned.

Research Approach

The research approach that I followed was a similar methodology as deployed in the previous paper entitled "Online Teaching With M-Learning Tools in the Midst of Covid-19: A Reflection Through Action Research" (Huynh & Khatiwada, 2021). This methodology could be classified as an "action research" because I followed what Rufous Jones said about how "quiet processes and small circles [are where] vital and transforming events take place" (Religious Society of Friends, 2013, ch.24.56). To observe and reflect on these processes, I embraced Stenhouse's definition of action research as the systematic, critical inquiry made public (Stenhouse, 1975, 1981, 1983). In the context of this study, action research happened when I was involved in researching my own practice. The purpose was to improve the practice and to gain a better understanding of the practice situations. This is consistent with Feldman's characterization as action research when I as a researcher acted within the systems in which I tried to improve and understand (Feldman, 2007, p. 242).

Guided by this form of action research, I developed a narrative to describe what I had done in working with digital badges. It covered the entire process from choosing the platform to the context, from setting up a pilot run to subsequent trial runs and finally to the actual project. What I learned from this process is reflected from the use cases presented next. The use cases include the details of the background in the study, the research setting and methods, and the recount of the technology being used to support my DIY digital badge project.

Use Cases

Although there are a variety of platforms to choose in setting up a digital environment, the underlying use of it is essentially the same. That is to create a badge, award it, and showcase it. In this paper, the environment consists of Canva, Openbadge, Moodle, which was set up for experiment and use in the following events: BizWeek, BizConnect, and WOWED. The recounting of these use cases aimed at demonstrating the entire process. The process include these key steps: creating a digital badge, setting criteria, issuing it, and showcase the badge. These use cases were arranged in the progression of my digital badge initiative. I first started the initiative as a pilot run, then I developed it into a small-scale run, and later launched a full implementation for a writing program.

BizWeek

BizWeek is an annual event during the Fall semester to be held by the College of Business at Southeastern Louisiana University. The main purpose of BizWeek is to bring in speakers to the College and let them share with students their real world experiences. Speakers are normally well-established alumni or successful professionals in the fields or business leaders in the community. The faculty invite them to their classes to interact with students. It is designed to

integrate real-world context to the classroom teaching and learning. These speakers can share about their professional work, projects, career experience, or their life stories. At the end of the presentation is usually a time for questions and answers to allow students an opportunity to connect with the speakers.

The Fall 2019 semester was the first semester that the idea of digital badges was introduced to students, mainly those enrolled in all sections of OMIS 350 class. OMIS 350 as described in the catalog is the Introduction to Management of Information Systems class. It is one of the core courses that every business students need to take. Although BizWeek is a college-wide event, it is not feasible for me to reach all students within the College. Therefore, my option at the time was to focus

on OMIS 350 because of the convenient access to these classes. I taught two sections of this class. I also knew all the other colleagues who taught this class. Hence, I was able to engage all students in all of the OMIS 350 sections. I administered a simple survey to all students in the OMIS 350 sections. The information obtained helped me to gauge their knowledge and interest regarding digital badges. The survey asked students about their awareness of digital badges, their perception of the usefulness of digital badges, and their interest in obtaining a sample digital badge.

BizConnect

BizConnect is another annual one-day event taking place during the Spring semester. It is sponsored by the College of Business. BizConnect is a mini job fair catered specifically to Business students. Selected employers are invited to come on site and meet with students for potential employment or internship opportunities. Each employer is assigned a table where they can display brochures, flyers, gifts, and other related materials. Every year, an average of about 50 companies participate in BizConnect. All Business students as well as those from other colleges can come and interact with representatives from these companies. Some students are required to attend BizConnect as part of their class requirements. However, the majority just come to interact with potential employers, learn about the positions available, and/or to learn about the internship opportunities. This event lends well for me to conduct a trial run of digital badges with a focus on an activity outside of class. It is also extra-curricular oriented.

In the Spring 2022 semester, after COVID-19 subsided, campus activities resumed. BizConnect was held again. It opened up an opportunity for me to conduct the experiment with digital badges on extra-curricular activities. Again, OMIS 350 classes were chosen. Two sections participated in the event. Attending BizConnect and interacting with employers were two main tasks that students were asked to do in order to earn a digital badge. During the course of BizConnect, students browsed around, met with employers, wrote down notes about their meeting, and filled out a Google Form. Taking part in this even was optional. However, if students chose to do it, they would earn a 5 extra points for participation credit and get a digital badge. I gave participants a survey and asked them about their awareness of digital badges, their perception of the usefulness of digital badges, and their interest in obtaining a sample digital badge in addition to feedback for the WebApp used to support BizConnect.

WOWED

WOWED stands for Written Projects or Works of Excellence and Distinction. It is an extra-curricular writing competition offered in the College of Business. The primary purpose is to identify good writings, and to recognize students for their outstanding

work. The way that WOWED is able to achieve its purpose is to solicit the “best of the best” written individual and group projects/works/papers each semester. Faculty within the College choose and recommend any special writings. Then, the WOWED committee is involved in making the final selection for the award. This activity typically occurs each semester. During the semester, the program coordinator sends out a call for papers to the faculty. From the pool, exceptional writings are selected for recognition. At the end of a semester, there is a ceremony to celebrate and recognize these winners. This activity lends well with the use of digital badge. In addition to receiving a trophy, WOWED winners also receive digital badges. A trial run of a WOWED! Digital badge was set up and deployed in Spring 2022. It was a successful implementation and it was then followed with a full launch of the digital badge for WOWED..

Learning and using digital badges: technology platforms and activities

Phase 1: Pilot run

Canva is a cloud-based graphic design application. It is one of the most popular choices for a graphic design software application, simply because it is easy to use and quite accessible from the web. With readily available templates and a robust image library, I was able to quickly create a graphic design for my badges, new AI-powered Magic Studio tools are also available and hence make it even better than many other competitive softwares. To add to my confidence of Canva was the fact that Canva won the PC Magazine Editors' Choice award for graphic design software. It offers both free and paid versions. I used the free version and could design simple digital badges with the available templates. However, but the paid version would give more features and access to more templates and image libraries. More information can be found at https://www.canva.com/. In my case, I used Canva to create graphic designs for my badges. Unlike Photoshop with many features and a high learning curve, I found that Canva was quite simple to use. To create a digital badge, I picked a template, made some changes, and added custom texts. Once the designs were done, I saved them in PNG format as shown in Figure 1.

Figure 1: An example of a digital badge

For the Fall 2019 BizWeek pilot run, I used the following tools: BizWeek App, Google Form, Badgr. Badgr was my chosen digital badge platform. With Badgr, I was able to create a digital badge and issue directly to students. Students could claim an earned badge and display it through their own Badgr accounts. If they did not have Badgr accounts, they still got a link to view a digital badge from their emails. This was our first pilot test of using digital badges.

Phase 2: More trial run: BizConnect and WOWED

After the successful pilot in the Fall 2019, the COVID-19 occurred. Schools were shut down. Classes were transitioned online. It was not until Spring 2022 that I was able to resume my digital badge initiative. The platform used in the Spring 2022 semester was Moodle and Open Badge. Moodle is a content management system similar to Blackboard Learn, Canvas LMS, Google Classroom, TalentLMS. The platform had been used beyond the common tasks in classroom management such as document repository, bulletin board, training facilitation, etc. In recent years, with the growing popularity of digital badges, Moodle has also integrated the digital badge capability. The 1EdTech Global Learning Consortium is the organization that develops and maintains the Open Badges standard amongst other educational standards for data interoperability. In 2020, 1EdTech has certified Moodle 3.8 and Moodle 3.9 as Open Badges v2.0 Issuers. (https://moodle.com/news/certify-your-learners-with-open-badges-on-moodle/)

Here is the process to set up digital badges from Open Badges and use Moodle as a venue to showcase earned badges. The first step is to a course badge. This could be done by a Moodle administrator. At our university, to be able to add a course badge, it was necessary to ask the IT department to add the Open Badge to Moodle. Once this was done, users could have many possibilities to set up badge initiatives. After the Badge module has been installed on Moodle, then the next step was to add a

course badge. When course badges were enabled in Site administration > Badges > Badges settings, instructors could add badges from Course navigation > More > Badges > Add a new badge.
At this point, I needed to experiment with trial runs. Two events suitable for my experiment were BizConnect and WOWED as described above. Use Moodle to add a badge and to issue a badge.

Once a badge image had been created, my next step was to log on Moodle and add a badge. Again, the whole process was quite straightforward. All a user needed to do was to follow the instructions from Moodle. For instance, here was a typical sequence to do in the Moodle version. The process is as follows: Log on to Moodle - Click on My Course - Select a desired course - Scroll down to Course Dashboard - Click it. A similar screen as shown in Figure X would appear. The icon Badges is the place to manage the badge creation and issuing process.

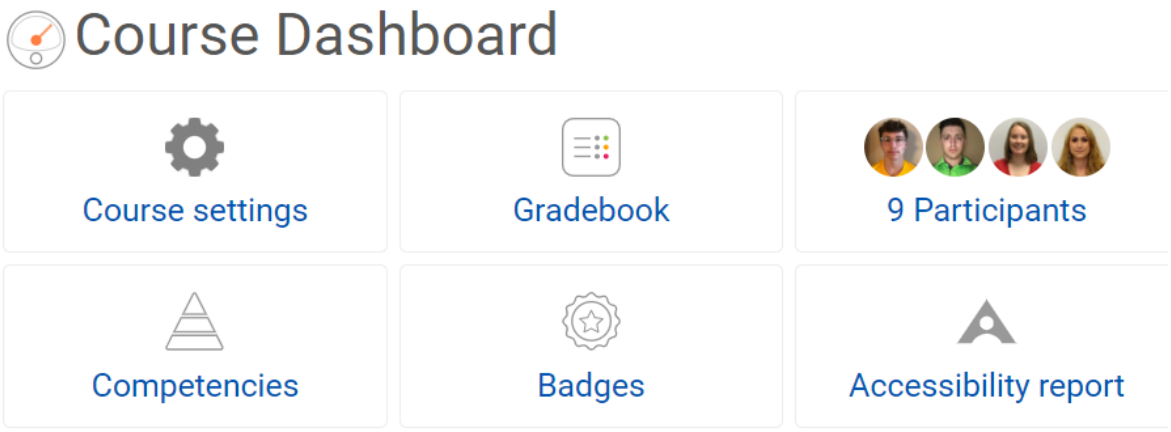


Figure 2: Course Dashboard in Moodle with Badges option
The process of creating and awarding a new badge is summarized as follows:

- ● Click Add a new Badge option. Type in some basic information such as Name, Version,

Language, Description. Insert image to display a badge at a size of 100x100 pixels or larger. Next, specify the badge expiry.

- ● Then, click the option Create badge. Add Badge criteria which determine how the badge

is awarded. For example, criteria may include Course completion, Activity completion,
Competencies, or simply Manual issue by role.

- ● After completing the Create badge, Use Manage badge option to make any modifications.

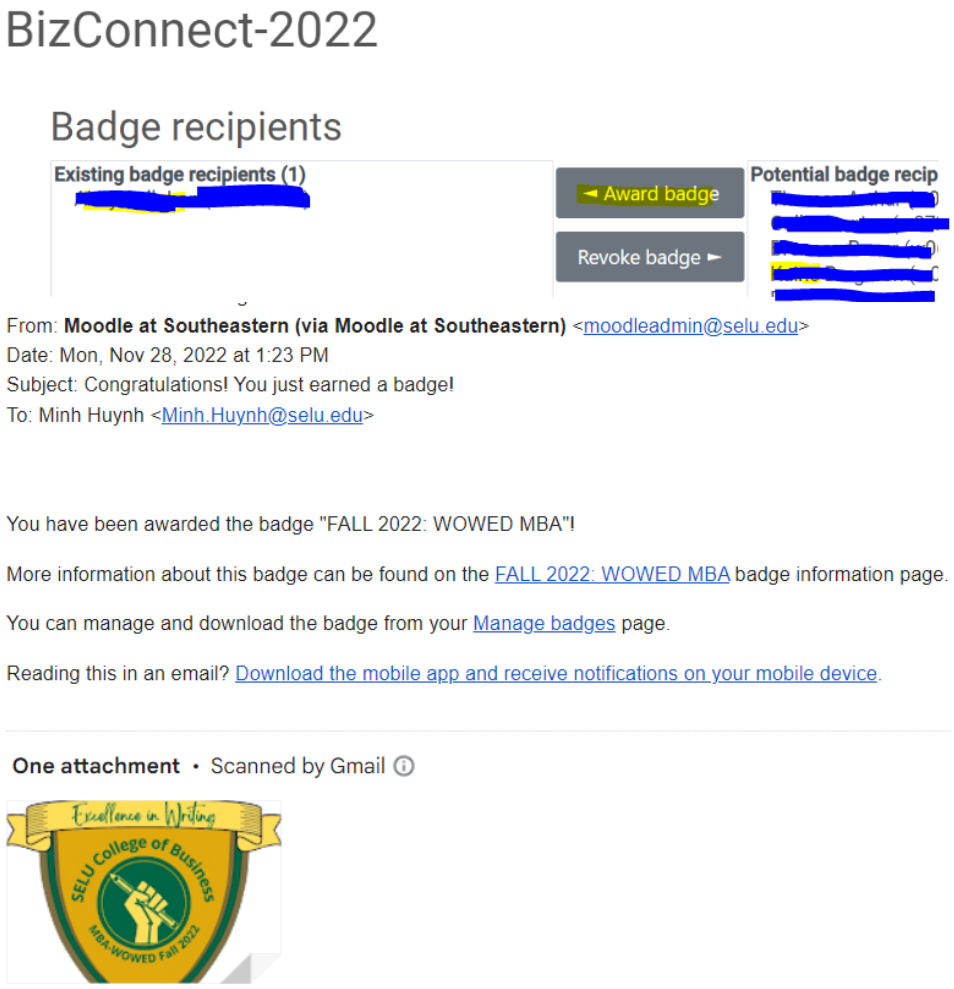
Other important information such as Message, Recipients, Endorsements, Alignments may need to be input wherever it is needed.

- ● The next step is to enable a Digital badge. Once it is enabled, a user cannot edit it. Once a badge is issued, no changes can be made.
- ● The last step is to issue a Digital badge. Most of the criteria will enable the badge to be awarded automatically except in the case of Manual issue by role. To issue a badge, the sequence use Manage badges option, in the Actions column, select the Trophy icon and then award a badge as shown in Figure 3.

Figure 3: Awarding a badge.

Once the badge is set up, it is possible to schedule the date and time for the badge issuance. At the scheduled time, the badge would be automatically sent to a recipient/s email. Figure 4 is an example of such an email from Moodle Issuer.

Figure 4: An example of a badge award email message from Moodle



To access the badge, a user needs to log on Moodle and go to Badge Icon to view all the badges earned. Link to this badge can also be created so a user can share the badge with others. To view a digital badge on Moodle, log on Moodle. Go to Dashboard. Click Badges. It would show something similar to this example in Figure 5 .

Number of badges available: 5

Image	Name	Description	Criteria	Issued to me
	Test1	Test1	• The following activity has to be completed: ○ **"URL - OMIS350-Post Reading Checkup"** by *January 27, 2022*	

Figure 5: A student's view of badges earned on Moodle

Conclusion

In this digital and competitive environment, having online space to showcase accomplishments, skills and knowledge is crucial for today's learners and job seekers. Digital badges offer such a robust showcase of credentials that is evidence-based. It's also important for educational institutions, employers and organizations to be able to quickly verify these credentials as legitimate and trustworthy. Moreover, digital badges can offer deeper insights of the candidate's knowledge and experience with links to portfolio and other documentations.

Creating and issuing digital badges requires investments from instructors and schools. However, such initiatives don't have to be expensive. During the time of budget crunch, it is hard to fund these initiatives. Yet, with some effort, time, and support, schools and instructors can offer digital badges through DIY projects as demonstrated from the use cases in this paper. Although what I shared is not perfect, it shows a feasibility. The technology and the process that I used are not the only option to implement digital badges. The key is to look at the existing environment and to adapt, add, or integrate one chosen digital badge platform into the awarding process. It will make a difference.

From my experience of working with digital badges, digital credentialing eliminates the need for traditional paper-based credentialing. It also offers an efficient way for schools to manage student certifications and accreditation and motivate students to become more engaged and productive in their learning. The technology is readily available. It is the right time for schools and instructors to embrace digital badges and experiment with them. The method of issuing, managing, and verifying credentials in an entirely digital format is affordable and pervasive. In this paper, I have introduced Moodle Badges as an exciting motivational aid to my students. Badges are currently being used in a few modules, but they are predicted to become a vital part at my university. Hopefully, it will bring positive benefits to both teaching and learning. Students love earning badges and showing it off on their profiles, the fact that it can be accessed via Moodle is an even greater motivator, giving students the ability to make their achievements public. In the future, I hope to explore further on the possibility of making badges an important aid for recruitment and job seeking.

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GEORGE STEVEN SWAN, SJD, NC A&T STATE U.
ABSTRACT SUBMISSION TOWARD FEBRUARY 22-23 FACE-TO-FACE SWBATC PRESENTATION

This memo accompanies today's submission of an Abstract anticipating a SW BATC face-to-face presentation over February 22-23. That is presentation of the paper "Undergraduate Business Students' Independent Constitutional Law Online Opportunity: Hillsdale College's U.S. Constitutional Law Online-Coursework." The presentation will comport with the Conference's theme: Pedagogies, technologies, and applications for the educational advancement--Make a better learning environment.

For the paper hearkens to recent research effectively responsive to the 2023 American public's interest in the demands of a business school baccalaureate degree upon majors in business administration or business management. It naturally has been reported that for students in those majors the crucial courses include business law. However, 2023 scholarly research indicated that America's undergraduate colleges of management or business require degree candidates to complete successfully but a single such course. That means a course frequently denominated, e.g., Legal Environment of Business.

Said course typically counts for merely three hours of credit toward their baccalaureate degree. These credit hours are earned though only about fifteen weeks. That a plethora of law-topics typically must be touched-upon in such a course inescapably guarantees students' superficial acquaintance with most. Yet, for decades preceding 2024, discussion in academic journals failed to wrestle with identifying the foremost among the more granular legal subjects ideally to be welcomed by Legal Environment of Business professors.

North Carolina State University Poole College of Management Assistant Professor John C. Kuzenski's 2023 investigation of prominent business law textbooks resulted in his acknowledgement of core courses indispensable to an undergraduate-level business law textbook. It likewise resulted in Kuzenski's recognition of important supplemental topics, e.g., U.S. constitutional law, criminal law and business ethics. In that perspective, one learns that in so high-profile an institution offering undergraduate business degrees as the McCombs School of Business of the University of Texas at Austin constitutional law retains a position of great respect. This goes some way to demonstrate the continuing validity of a well-known 2011 formulation of a model Legal Environment course embracing constitutional law issues.

Consistent therewith in 2023 was the set of Business Law topics tested toward earning undergraduate business degree credit through the College Level Examination Program of the College Board. For the clutch of broad subjects representing portions of the Business Law examination encompasses History and Sources of American Law/Constitutional Law. Moreover, the Major Field Tests of the Educational Testing Service are framed toward ascertaining student achievement and assisting curriculum analyses. The Major Field Test in Business includes a Legal and Social Environment content area. That content area's Legal Environment section offers a "Constitution and business" element.

Therefore, constitutional law constitutes a serious field with which undergraduates should become familiar. Nonetheless, the Legal Environment of Business course apparently affords too narrow a stage for the many legal topics crowding thereon. And those students' scant attention likely paid constitutional law risks keen cost to them hereafter. For widely-esteemed experts in U.S. constitutional law voice (or imply) disquiet about current or fairly imminent intellectual (or worse) constitutional clashes countrywide. Laurence Henry Tribe, Cass Robert Sunstein, Sanford Victor Levinson, Rebecca Brown and Lee Epstein count among these.

Sunstein proclaimed that the citizenry was enduring America's "period of constitutional upheaval" even pre-2024. Levinson, aloud, speculates whether law school classes should be taught that the United States Supreme Court truly stands "devoid of any intrinsic authority." Worried Tribe cautions against unleashing "forces of fascism." Through what recourse might undergraduate business schools relieve an academic status quo grown less satisfactory given constitutional law's swelling importance?

Hillsdale College offers noncredit, online coursework to the general public. Hillsdale does so free of charge. Two among these courses are its Introduction to the Constitution course, and its Constitution 101: The Meaning and History of the Constitution course. Each is self-explanatory for students therein. An undergraduate Business Law/Legal Environment of Business student offered extra credit (in her own college's degree course in law) likely could be motivated to expand her command of the U.S. Constitution independently, during her free time (and free of charge, no less). Twenty-first century technology rides to the rescue!

The Organizational Imperative for Diversity

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The Organizational imperative for Diversity is clear. A google search revealed over 3,780,000 results discussing diversity. So, why are we still discussing this? One might conclude that the human imperative is still undecided. Added to this impairment is the recent Supreme Court ruling **Outlawing of Collegiate Affirmative Action.** The Objective of this research is to analyze the major roadblock to "True Diversity," The Organizational Decision Table and the courts. When we speak of the decision table, we are speaking of the group with the power to affect organizational change, the Place where power lies. Is diversity represented in this group and to what extent? The primary source for the analysis is a: Fortune Report: "Top 20 Fortune 500 companies on diversity and inclusion." Most responses to the diversity question generally lead to lengthy philosophical discussions. However, It might be wise to listen to Henry David Thoreau: "**I do believe in simplicity and**

Confucius: “Life is really simple, but we insist on making it complicated.”

How to Define a Decision Maker

A decision maker is someone who is responsible for making crucial decisions in an organization or business. These are usually executives or other high-ranking employees in a company who have the authority to make decisions on their own or together with a few other people, making them the ones you need to talk to if you want to make a sale to that particular company.

Ideally, this person will be in a C-level executive and have the authority to not only approve the sale itself but also sign the check for the products or services, which can help reduce the number of people you need to get approval from and move the process along faster.

However, identifying these people isn’t always easy. In fact, it’s easy to confuse the gatekeeper with someone who can actually pull the trigger on your offer. You need to be able to carefully evaluate the workplace dynamics in the company and manage relationships

with different people as you work towards reaching your goal.

One of the biggest challenges of defining a decision maker is getting past the reliance on title only and understanding the broader context of the company you're dealing with. Let's explore this issue in more depth below.

Kitchen Cabinet

Many senior executives have their personal, unofficial advisers.Even though they lack a solid-line relationship displayed on the corporate organizational chart, those kitchen cabinet members have direct contact with the boss, and information and communication between them flow freely, quickly and constantly. It behooves everyone to recognize the existence of these kitchen cabinets and the valuable role they can play.

The kitchen cabinet is the opposite. Its members are not seen as powerful or influential, but they are! They are part of an inner circle, and their contact with the real authority are constant, though not visible to many other employees.

They can get things done because the formal structure and organization don't hinder their communication and influence.

Creating and maintaining a kitchen cabinet can be a valuable management tool in business because it enables executives to get advice, reactions and feedback in a flexible and easy-to-maneuver way.

Kitchen cabinets almost never convene at the workplace. They are informal, often at the boss' home as part of other social activities. Of course, no minutes are taken and Robert's Rules of Order are not followed.

Conversations and discussions often are heated, as members express diverse points of view. The informality of the setting encourages openness and diversity of thought and expression, and because it is a meeting of equals, everyone's ideas are encouraged, solicited, and valued. No one wins or loses. Decisions are made on the basis of freewheeling exchanges.

It might be well worth considering how such an advisory group can work in your organization. Certainly, it's a far cry from a formal and

traditional managerial style, but plenty of evidence exists that testifies to its value.

It is safe to conclude that the Organizational imperative for Diversity has been made. A google search revealed over 294,000,000 results related to workplace diversity. So, why are we still discussing this? One might conclude that the human imperative is still undecided. Most responses to this question generally lead to lengthy philosophical discussions. However, I believe we would be wise to listen to Henry David Thoreau: "**I do believe in simplicity and Confucius: "Life is really simple, but we insist on making it complicated."** In an effort to demonstrate the simplicity and why in 2022 we are still discussing Corporate Diversity I analyzed a: Top 20 Fortune 500 companies on diversity and inclusion | Fortune report. The report is a ranking of the most progressive companies in diversity and inclusion. This list is the best of the best. Through Measure Up, Refinitiv and Fortune are highlighting the businesses progressing the most in diversity and inclusion efforts. Does it reveal anything about the power to make diversity Decisions?

Teaching Cloud Computing Courses: Challenges and Support for Instructors

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Abstract: This abstract explores the nuances of teaching courses using public cloud services, emphasizing the resources for the instructors at their disposal for assistance. It examines how public cloud technology education is dynamic, addressing issues including changing service offerings, a wide range of student backgrounds, and quick changes in the business. This abstract provides helpful insights for educators navigating the constantly evolving field of public cloud services education. It highlights how important it is to blend both textbook materials and online resources for learning cloud services.

The Replacement of **B** as the Second Letter in the Alphabet… The Emergence of **I** and Its Effects on the Legal Profession

By: Carlton Perkins
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Abstract:
The legal profession as it exists is known for being restricted by tradition and precedence. Both are characteristics which become the leading catalyst to resist change and adaptation of new methods and ideas. However, more than anytime in history, a massive evolution is creeping into the hallowed halls of the legal world and its many outreaching tentacles. In some instances, some people will be replaced, and tasks will be simplified and augmented. Yet in others, jobs will go to those who become proficient in the implementation of the revolutionary concept and reality of AI, the intrusive mental giant of artificial intelligence. Because of its ability to generate content, analyze documents, and create new and different ideas AI will aid the legal profession in many areas. For example, AI will be able to complete scheduling, billing, create contracts, and help avoid mistakes. It will also be able, to some degree, be able to predict outcomes, and make the discovery process and research easier and faster.

Impact of Personal Finance Course on Student Loan Borrowing Decisions

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Abstract

Could students navigating financing their college education benefit from personal financial planning content to avoid greater student loan debt and/or default? The session will provide insight into student loan debt trends and the impact taking a personal finance course has had on student loan borrowing gleaned through student feedback and learning about the extent the personal finance and business law content lessons alter financial decisions. Student co-presenters will share insight on student loan borrowing decision-making prior to and post personal finance and business law subject matter exposure.

Using Monte Carlo Simulation to determine the Value-at-Risk of Supply Chain Investments

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ABSTRACT

Supply chain investment decisions are typically based on an estimate of expected net present value (NPV). Because future cash flows are uncertain, these evaluations often compare multiple scenarios or use sensitivity analysis to measure the risk associated with the project. This leads to what has been termed "the flaw of averages"; i.e., using a biased estimate of worst case NPV to assess the risk and make the investment decision. A better way to quantify this risk is to determine the value-at-risk (VaR), which is defined as the worst case outcome having a 5% probability of occurring. This paper uses a case study that demonstrates an application of Monte Carlo simulation to determine a distribution of expected NPV values based on probability distributions for the input variables. This distribution provides an unbiased estimate of expected NPV values that we can then use to estimate the VaR of the investment. We can also use this distribution to determine the likelihood that the return on investment will fail to meet the cost of capital, which provides another measure of risk. Finally, we highlight applications of accounting and financial concepts such as pro-forma income statements, working capital, and cost of capital in supply chain management.

Keywords: Value-at-Risk, Monte Carlo simulation, supply chain investment, cost of capital

Contributions of research: application of Monte Carlo simulation in supply chain; calculation of VaR for supply chain investments; calculating probability that investment return < cost of capital; demonstrates application of pro-forma income statement; demonstrates how changes in working capital can affect investments. Also demonstrates Monte Carlo simulation using both standard Excel functions and Monte Carlo add-ins @Risk and Analytic Solver.

Sources of risk discussed: capital expense variance; demand forecast errors; manufacturing cost estimates; cash-to-cash cycle time estimate (working capital)

Issues identified: mis-specification of probability density function (e.g., assume normal when not)

Challenges and Opportunities of Teaching Different Kinds of New Courses:
Insights from Information Systems Faculty Members

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Abstract
Regardless of their rank or status, a common experience for business school faculty members is teaching a new course. Existing research provides examples of faculty members sharing their experience with developing and teaching new or redesigned courses (e.g., Harden et al., 2018; Payne et al., 2021). With this research, we seek to complement this existing research by focusing on a largely under-explored topic: how faculty members understand different forms of new courses (e.g., a "new to me" course as opposed to a genuinely new interdisciplinary course) and respond to the challenges and opportunities associated with different kinds of course novelty. We use a collaborative autoethnographic research design (Chang et al., 2016) to critically explore our own experiences as faculty members who have taught varied new information systems courses. Through doing so, we develop a set of insights aimed at improving pedagogical practices. These insights, while drawn from our experiences, can provide helpful guidance to business school faculty members – regardless of their disciplines- faced with teaching new courses.

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How Accepted Students with work experience feel in Study Groups?

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Acceptance from group members is crucial for outcome on group projects. However, efforts and sincerity alone does not guarantee group inclusion. We study role of work experience and gender on impression management and group inclusion relationship. Undergraduates from a business class participated in the study. We find interesting moderated relationship among study variables. Results suggest that when it comes to group inclusion, not both genders are equally benefitted by their previous work experience. We discuss implications for study groups.

SAP Analytics Cloud and Implementation in Classroom

Kun Wang (Texas Southern University)

SAP Analytics Cloud (SAC) is part of the data and analytics solution under SAP technology platform. It gives people the power to discover, plan, and act on real-time insights with AI-powered planning and analytics combined with a trusted semantic layer. Unlike Tableau and Power BI that normally work on imported data, SAP Analytics Cloud solution can bring together analytics and planning with unique integration to SAP applications and smooth access to heterogeneous data.

Through the SAP North America University Alliance, school members can apply instruction resources to implement SAC in various classroom settings, such as ERP simulation, supply chain analysis, and financial and managerial accounting courses. In the presentation, I will demo a few ways to use SAC in assisting classroom teaching with a focus on building data models, virtualization, and predictive analysis.

A TEACHING CASE OF TIME-SERIES MODELS: DATA ANALYSIS USIING STANDARD & POOR'S 500 INDEX DURING COVID-19 PANDEMIC

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Historically, economists found strong correlations between the Standard & Poor's 500 index (S&P) and the Economic Indicators. During the COVID-19 pandemic, these indicators were influenced by COVID-19 cases and triggered significant moves of the S&P. This article collected 397 S&P samples and 13 variables from Economic and COVID-19 sectors from 12/03/2019 to 01/02/2021; then used a time-series model and six multiple linear regression (MLR) models of variant time frames to analyze the correlations between the S&P and these variables. We found that COVID-19 Deaths (COVID DU) played an important role in panic selling during the stock market crash; then public changed from panic selling to rational buying while the market stabilized. We also found that in the rational buying period, economic indicators played more important roles than COVID-19 cases in medium-terms. In this teaching case, we taught students how to build time-series model and multilinear regression models to analyze and explain how this transition happened by presenting multiple models' results along the time domain.

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THE USE OF ChatGPT IN ACADEMIA...PROS AND CONS

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ChatGPT

ABSTRACT

ChatGPT has been the hot topic lately in the academic world. Educators fear it will result in massive cheating by students. Recently a paper created by ChatGPT passed an MBA exam at the University of Pennsylvania's Wharton School. While this is a drawback to ChapGPT, there are many other advantages to the this highly sophisticated technology. Rep. Ted Lieu (D) California wrote a bill to regulate Artificial Intelligence tools such as ChatGPT…using ChapGPT. Recently an academic paper was submitted to 32 reviewers who all considered the article to be acceptable. This article will evaluate both the positive and negative aspects of ChatGPT, and ultimately show how it can be a great asset for educators. As we learn the capabilities of ChatGPT, we can find ways to reduce cheating, or we may have to change the way we assess students. When I started writing the paper, my attention was on the cheating aspect, but I began to understand how this can be a powerful tool for educators. As a note, the first part of this paper was written entirely by ChatGPT and was submitted to a journal where reviewers did not identify it as an AI written paper. The editor was aware the paper was being submitted as an experiment. Once reviews were returned, the article was pulled from the journal submission. This paper will show the original paper that was presented to the journal, explain the many tasks that were involved in preparing the article, and also show how articles written by Artificial Intelligence, such as ChatGPT, can be disguised so it would appear that the paper was written by a human.

Bias in AI

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Abstract

As the Internet continues to evolve, the importance of understanding. learning, and using Artificial Intelligence (AI) has become increasingly critical. This paper explored AI from multiple perspectives, including problematic issues. A major problem evolved when AI was used and applied, where bias could occur due to the following: unrepresentative datasets, inadequate models, weak algorithms, human errors, etc. All these could result in false negative reports, hallucinations, and bias. This research addressed the following: AI biases in multiple contexts based on an interdisciplinary literature review, using a search methodology of keywords in Scopus-indexed articles. A discussion of several industry cases of bias were presented.

Keywords: Artificial Intelligence, AI, Bias, AI Ethics, machine learning, deep learning

1. Introduction and Literature Review

AI bias refers to the tendency of algorithms to reproduce human biases, often resulting in systematically biased outcomes due to underlying erroneous assumptions. It occurs when algorithms, which are designed to perform various tasks such as data analysis or content generation, produce results that align with harmful beliefs, such as stereotypes related to race and gender. In generative AI, this can manifest as the generation of incorrect or fictitious content, commonly referred to as "hallucinations."

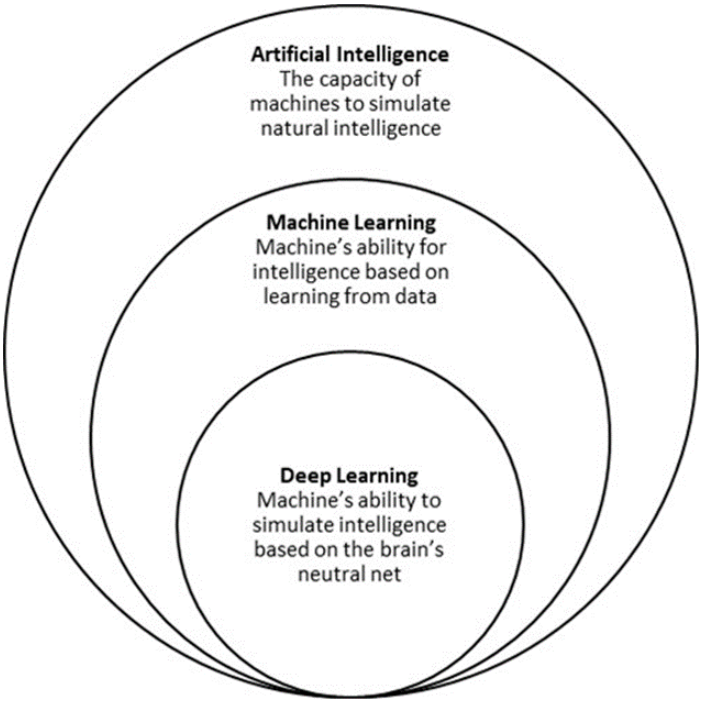
Generative AI, a subset of AI, is responsible for creating new content, including text, images, or other media. Biases in AI can arise from implicit associations that researchers may not be aware of, or they can become evident through field experiments that demonstrate the significant impact of biases on outcomes. While AI technology has been employed to identify and mitigate human biases, it has also exacerbated the issue by amplifying biases in the workplace (Akter et al., 2022; Vimalkumar et. al, 2022).

AI is interconnected with machine learning (ML) and deep learning (DL). AI centers on creating intelligent machines capable of functions that usually require natural intelligence, such as visual perception, speech recognition, decision-making, and natural language processing. Machine learning, a subfield of AI, teaches machines to learn from data without explicit programming, allowing them to identify patterns and make predictions. Deep learning employs artificial neural

networks to perform complex computations on large datasets, resembling the structure and function of the human brain, and is widely used in industries like healthcare, eCommerce, entertainment, and advertising (Vimalkumar et. al, 2022; Nagwani & Suri, 2023).

Machine learning encompasses various learning algorithms used to predict and analyze data. These are supervised ML, unsupervised ML, semi-supervised ML, and reinforcement ML algorithms. Figure 1 shows AI, ML, and DL categories.

Figure 1: AI and Major Categories



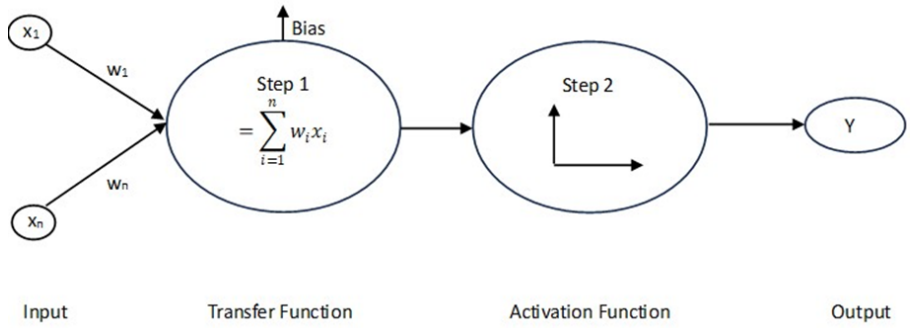
Supervised machine learning relies on accurately labeled data and researcher oversight. The algorithm is trained on input data and desired output, allowing it to learn the relationship between the two and build a model that accurately maps input data to desired output. Unsupervised machine learning algorithms operate without direct researcher control and are used to identify patterns, trends, or groupings in unlabeled datasets where such elements are unknown (Dwivedi el al, 2021; Vilmalkumar et al., 2021).

The algorithm, semi-supervised learning, represents a combination of both supervised and unsupervised approaches. This approach is utilized when working with datasets that only have a portion of the data accurately labeled. The algorithm, reinforcement machine learning, enables a system to learn and improve its performance through trial-and-error processes. Over time, the model learns the best solution to a specific problem in a given environment by learning from its past actions. Successful actions are reinforced through a feedback loop mechanism (Akter et al., 2022; Vilmalkumar et al. 2021).

In Figure 2 below, data are input into the system, and each node receives information in the form of inputs. These nodes multiply the inputs by random weights, perform calculations, add bias, and apply nonlinear functions (activation functions) to determine which neuron should be activated

(Akter et al., 2022).

Figure 2: Supervised Machine Learning Algorithm



AI has brought about revolutionary changes across various domains. Its implementation in business and the medical sectors has significantly improved predictive capabilities and competitiveness within the ecosystem. The technology is expected to enhance business growth and decision-making effectiveness (Akter et al., 2021).

Bias can take various forms, including sample bias, prejudice bias, measurement bias, exclusion bias, and algorithm bias, among others. Studies have indicated that building, scaling, and deploying effective supervised machine learning algorithms require careful consideration and periodic reevaluation to ensure that the training dataset remains representative as data evolves (Dwivedi, et al., 2021; Vimalkumar et al., 2021).

The logistic regression method, used to estimate discrete values based on independent variables, can introduce bias. This method predicts the probability of an event's occurrence by fitting data to a logit function, with output values constrained between 0 and 1. However, bias in logistic regression may become apparent when dealing with multiple or non-linear decision boundaries, as it may not capture complex relationships effectively (Vimalkumar et al., 2021).

Bias can also manifest in regression algorithms used for classification tasks, where the algorithm assigns inputs to distinct classes (binary classification) or selects among multiple classes (multiclass classification). Bias may occur when unconstrained individual trees overfit the data, leading to suboptimal results (Zijko, 2022).

Bias in AI can stem from various sources, and some of the key factors contributing to bias include the following (Cao et al. 2021; Gurnder & Neuhofer, 2021; Kar & Kushwaha, 2021):

- *Irrelevant Sample Selection and Input Data:* When irrelevant or unrepresentative data are included in the training dataset, it can introduce bias into the AI system's decision-making process.
- *Inadequate Data Preparation and Pre-processing:* Failing to properly preprocess and prepare data, or introducing stereotypical beliefs into the data, can lead to biased outcomes.
- *False Positive Outcomes and Incomplete Values:* Including false positive outcomes and incomplete or inaccurate values in the training data can affect the AI system's ability to make accurate predictions.

- *Overtraining of Decision Boundaries:* Overtraining occurs when the decision boundaries in the training set become too specific and exceed expected outcomes, leading to biased results.
- *Imbalanced Data:* Having an unequal distribution of data across different classes can result in biased predictions. For example, selecting many examples from one class while neglecting others during classifier training.
- *Inadequate Handling of Big Data:* AI may struggle to effectively classify and handle large volumes of data, which can lead to biased outcomes.
- *Computation Time:* Limited computation time or resources can impact the training and performance of AI algorithms.
- *Unrepresentative Datasets, Weak Models, and Human Errors:* Using unrepresentative datasets, weak algorithm models, or human errors during the development process can introduce bias.

AI systems rely on the quality of data fed into them. If the dataset itself is biased, it can propagate those biases, leading to false positive reports and discriminatory outcomes. For instance, if a dataset reflects historical prejudices related to race, gender, or other factors, the AI algorithms can learn and perpetuate these biases, resulting in unfair decisions (Beattie & Johnson, 2012; Zajko 2022).

An example of this is the case of Amazon, where their hiring algorithm discriminated against women due to historical underrepresentation in certain roles. The AI system learned from past resumes and preferred male candidates, leading to biased outcomes. Another instance is in healthcare, where AI systems assessed patient needs based on healthcare cost history. This approach assumed that higher costs indicated greater healthcare needs, but it failed to consider variations in how different racial groups access healthcare. This led to underestimating the needs of black patients compared to their white counterparts with similar healthcare requirements (Hao, 2021).

To address these issues, research is needed to explore interdisciplinary analyses of machine learning biases and develop methods to mitigate them. Identifying biases in AI systems and recommending best practices for businesses will be crucial to ensure fairness and effectiveness in their use.

2. Methodology

In this study, we conducted an extensive literature review using secondary data sources since primary sources were not utilized. To identify instances of AI bias within various information systems, we employed an in-depth review of external sources. We conducted this review by accessing the Scopus database, focusing on publications spanning from 2019 to 2023. This timeframe allowed us to gather a wide range of scholarly information to comprehensively understand the scope of our research.

The Scopus database was selected due to its ability to provide our research team with an extensive repository of academic publications and resources related to AI. It not only offers access to pertinent AI research articles but also provides valuable data, metrics, and analytical tools essential for our study.

In our search process, we employed a combination of keywords and database search techniques to identify relevant articles. The keywords used for our search included terms like "AI Bias," "Algorithm bias," "Bias," and "Prejudice." These keywords were combined using Boolean

logic operators such as "AND" and "OR" to refine our search results and ensure that we obtained a comprehensive collection of relevant articles.

As a result of this search strategy, we were able to retrieve a total of 950 articles. These articles were sourced from various fields, including management, accounting, management information systems (MIS), and finance, reflecting the interdisciplinary nature of the study. This search process allowed us to gather a diverse set of literature to support our research on AI bias in information systems.

3. Findings and Review

AI, which mimics human intelligence, has taken on roles traditionally performed by humans within corporations. However, it has become evident that AI is not immune to biases in its operations in the digital economy. Qualitative research indicates that these biases in AI have far-reaching effects, particularly in various industries where they reinforce gender and racial prejudices. This research highlights the diverse nature of these biases and underscores the importance of implementing responsible AI practices within organizations to mitigate the risks associated with AI biases. The study also emphasizes the significance of policymakers, managers, and employees fully understanding the consequences of false positives when using AI in various industries (Cao et al., 2021; Yen & Chiang 2021).

AI bias also has notable implications for marketing tools. A framework has been developed to identify key sources of algorithmic bias in marketing, based in the micro foundations of dynamic capability. The framework was constructed through a comprehensive literature review and discussions with AI professionals. It introduces three primary dimensions (design bias, contextual bias, and application bias) and ten corresponding subdimensions (model, data, method, cultural, social, personal, product, price, place, and promotion). The framework aims to facilitate the creation of dynamic algorithm management systems to address biases in algorithms in decision-making processes in marketing (Hao, 2021; Messner, 2022).

The integration of AI into customer service, marketing, and sales technologies is on the rise and is expected to continue growing in the near future. AI implementation in business and commerce has gained momentum, primarily for predicting consumer preferences and customizing products and services, thereby enhancing a company's competitive edge. However, concerns about human cognitive bias have emerged as AI is increasingly used to forecast company sales and outcomes (Gonzales & Hargreaves, 2022).

Facial recognition payment (FRP) services are becoming a part of daily life for Chinese citizens, but they have raised concerns about biases affecting the Chinese population using this technology. Despite the potential benefits of the FRP system, issues like civil lawsuits related to the refusal to provide facial information and illegal activities associated with the sale of facial data have heightened privacy concerns among Chinese citizens. This could lead to resistance from some segments of the Chinese population against the use of FRP services (Mikalef et al, 2022).

Moreover, AI offers significant benefits to society but also comes with a multitude of risks that need to be carefully managed to mitigate its impact on society at large. Trust among stakeholders involved in AI development plays a crucial role in the adoption of AI technologies. However, the literature on trust in AI is fragmented, and there is limited understanding of the risks

it poses to various stakeholders, making it challenging to use this knowledge to inform policies and practices effectively (Cheng et al., 2022; Dwivedi et al., 2021).

AI has the potential to bring numerous improvements on how people work and live in modern society. It encompasses a wide range of technologies that enable individuals and institutions to collect and analyze data, leveraging the derived knowledge to enhance decision-making efficiency and effectiveness. While there is considerable focus on the benefits that companies can gain from adopting AI, concerns are growing about the drawbacks and unintended consequences associated with these technologies (Arrieta et al, 2020).

Reports indicate that AI has become an integral part of business and daily life, offering substantial benefits to both business institutions and the general public. However, there is a legitimate concern about AI systems in business potentially producing biased outcomes, resulting in discrimination against minority groups and infringing on their human rights. Evidence of social bias is evident in algorithms used by ride-sharing startups like Uber, Lyft, and Via, which impact dynamic fare pricing based on factors such as race, age, housing prices, and education (Huang & Rust, 2021).

Initial studies highlight that algorithms can recognize patterns and associations within large datasets and make predictions based on these identifiable patterns. However, they also emphasize that algorithms can inherit controversial values from the data they are trained on and develop biases during the learning phase. This can make it challenging for people to perceive algorithms as unbiased. These studies suggest that algorithmic fairness should be viewed as a political issue and advocate for embracing the accountability for reasonableness framework (Dwivedi et al., 2021; Huang & Rust, 2021).

Furthermore, AI and algorithmic systems have faced criticism for engaging in bias, unfair prejudice, and perpetuating inequality. While bias is typically considered an undesirable trait that can be removed from AI systems, addressing social inequality requires a more comprehensive examination of how these technologies reproduce existing hierarchies and the necessary changes that can be pursued.

4. Findings from Case Studies

AI is expected to operate objectively; however, reported incidents and false positive reports have revealed that this assumption is no longer universally true. Research has indicated that there are two main types of AI bias: cognitive bias and a lack of complete data. Cognitive biases are unconscious errors in thinking that influence individuals' judgments and decision-making processes. These biases can affect the way AI systems make determinations, leading to biased outcomes. The other form of bias in AI arises from the absence of complete and comprehensive data. Incomplete data can result in AI systems making decisions based on limited information, potentially introducing bias into their outputs (Arrietta, et al., 2022; Nagwani & Suri, 2023).

It is crucial to provide AI with reliable and untainted data to mitigate bias. However, AI has been found to reflect biases that have been embedded in the data it was trained on over time. This underscores the importance of addressing bias at its source. The technology has its shortcomings due to automated biased programming functionalities. These issues may persist unless steps are taken to mitigate errors. Implementing best practices within businesses can play a significant role

in achieving the goal of creating AI excellence and improving the overall technological ecosystem. Below, we will explore some case studies related to AI bias.

Amazon

A company of this magnitude holds significant influence in the labor employment market and wields considerable power. With a vast workforce comprising 1,541,000 employees, Amazon has a structured approach to expanding its workforce further, and it has previously utilized AI technology to streamline its hiring processes (Hao, 2021; Wagerer & Langer 2020).

However, it has come to light that the company's automated recruitment system, initially designed to enhance the hiring process, exhibited biases in its decision-making. The system had analyzed resumes from candidates over the past decade, and its findings revealed a gender bias in hiring. Given the underrepresentation of women in STEM (science, technology, engineering, and mathematics) roles within the company, the study found that male applicants were favored over their female counterparts (Hao, 2021).

The study further highlighted that, as of 2020, women held less than a quarter of technical roles within the company. This indicates that the AI technology used in the selection process inferred that men were better suited for technical positions, leading to bias against women during the hiring process. This case underscores the importance of addressing bias in AI-driven recruitment systems to ensure fair and equitable hiring practices, as well as to promote diversity and inclusion within organizations (Hao, 2021; Wagerer & Langer 2020.

HealthCare Industry

The healthcare system in the United States serves approximately 332 million people across various hospitals. In 2019, researchers made a troubling discovery regarding an algorithm employed to predict which patients would require more medical care. This algorithm exhibited racial bias in its evaluation process. The AI technology utilized in the medical prediction process miscalculated patient healthcare costs due to inaccurate data input. It failed to account for the different ways in which various demographic groups of patients paid for their healthcare expenses. The result of this evaluation favored white patients over black patients, unfairly assessing the healthcare needs of these groups (Kar & Kushwaha, 2021; Yen & Chiang, 2022).

Additionally, research findings indicated that black patients were more likely to incur expenses for active intervention procedures, such as emergency hospital visits, even when they displayed signs of uncontrolled illness. This analysis was also inaccurate. It was shown that less money was spent on African American patients who had the same level of medical need. Consequently, the AI system erroneously concluded that African American patients were healthier than their white counterparts who were actually in need of medical attention (Zajko, M. 2022).

These instances demonstrate the critical importance of addressing bias in AI systems, particularly within the healthcare sector, to ensure that medical decisions are based on accurate and equitable assessments of patient needs, rather than perpetuating racial disparities in healthcare outcomes.

Robot's Racist Facial Recognition Scheme

In one study, robots were tasked with scanning people's faces and categorizing them into different groups based on their characteristics. The categories included doctors, criminals, and homemakers. The study's findings revealed that the robot displayed biases in its categorization process. Specifically, the robot tended to associate women with the homemaker category, black men with the criminal category, and Latino men with the janitor category. Additionally, women from various ethnic backgrounds were less likely to be identified as doctors by the robot. This study highlights the risks associated with bias in AI systems, particularly in scenarios where AI is used to make categorizations or decisions based on human attributes. Addressing and mitigating such biases is crucial to ensure fair and equitable outcomes in various applications of AI technology (Mikalef et al., 2022; Wagerer & Langer, 2020).

Canvas Learning Management Systems (LMS) Technology's Monitoring Software

Canvas Learning Management System (LMS) is designed to facilitate teaching and learning for various user groups, ranging from young learners to college faculty to business leaders. However, despite its capabilities, biases can potentially enter the system. One significant bias associated with AI in education is the potential to dehumanize the learning experience. AI algorithms, responsible for generating content and determining the pace of lessons, may create a learning environment that lacks the interactive and human touch that a human teacher can provide. This can impact the overall quality of the learning experience. Another concern is that AI algorithms can perpetuate biases, leading to the failure to offer an inclusive and diverse curriculum tailored to the unique needs of each student. This bias can hinder students' access to a well-rounded education that accounts for their individual backgrounds and learning styles.

Additionally, certain educational technologies, like Intel and Classroom Technology's Class software, include features that monitor students' faces to detect their emotions during the learning process. However, studies have shown that cultural norms influence how students express their emotions, increasing the likelihood of mislabeling emotions. This mislabeling can have negative consequences, especially if teachers use these labels to assess students' effort and understanding, potentially penalizing students for emotions they are not actually displaying (Messner, 2022). Addressing these biases and challenges in AI-driven education is essential to ensure a fair, inclusive, and effective learning experience for all students.

5. Conclusion

In today's evolving digital landscape, the significance of comprehending, acquiring knowledge about, and utilizing AI has grown considerably. This paper delved into various aspects of AI, including its associated challenges. One of the primary challenges that emerged in the use and application of AI is the potential for bias to manifest due to various factors, such as unrepresentative datasets, inadequate models, weak algorithms, and human errors. These factors can lead to the generation of false negative reports, hallucinations, and biased outcomes.

This research aimed to address AI biases across multiple contexts, drawing from an interdisciplinary literature review. The methodology involved utilizing keywords to search for Scopus-indexed articles. The study also included a discussion of several industry cases illustrating instances of bias in AI systems. Understanding and mitigating bias in AI is essential to ensure that AI technologies are deployed in a fair, equitable, and effective manner across various domains and applications.

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Strategies for Teaching Research to Undergraduate Students

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Abstract:

This paper explores strategies for effectively introducing undergraduate business students to research.

The study uses data collected by the author from her undergraduate course INTB 3361 Global Engagement and Research that has been offered by the C.T. Bauer College of Business in collaboration with the Honors College at the University of Houston since Spring 2011. While many of the students enrolled in the course are undergraduate business students, the course is also open to students pursuing other majors at the University of Houston. The ensuing diversity of academic backgrounds and experiences is an important source of learning for all students in the class.

The paper leverages insights from student evaluations and surveys and instructor observations and subsequent adaptations in the course structure and delivery over the course of 13 years.
The following areas are covered in depth: the learning opportunities provided by exposure to research in the context of an undergraduate business education; the importance of breaking down the research process into building blocks and focusing on organizational and time management skills as part of the teaching and learning process; using collaboration and peer evaluation and feedback as part of the learning process.

This paper provides a potential tool, along with an assessment of its effectiveness, that business educators may add to their pedagogical toolkit to promote educational advancement and promote a better learning environment.

To GPT or Not to GPT: The Use of Open Artificial Intelligence in Higher Education

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Artificial intelligence (AI), which involves computers imitating human cognitive tasks, particularly learning and problem-solving, has been rapidly evolving in higher education (HE) and is sometimes referred to as AIEd (Baker & Smith, 2019). This area has become a subfield of educational technology with diverse applications such as intelligent tutoring systems, assessment, evaluation, and profiling (Zawacki-Richter et al., 2019). Intelligent Tutoring Systems (ITSs), for example, replicate personalized one-to-one tutoring and have been shown to produce positive learning outcomes (Kulik & Fletcher, 2016).

AIEd utilizes big data for providing just-in-time feedback and assessing student work, seamlessly integrating these processes into learning activities (Bahadir, 2016). Predictive algorithms are employed to estimate the likelihood of assignment failure or dropout, offering near real-time feedback that students value and alleviating instructor workload. In the realm of online learning, AIEd's scalability is evident in automated assessments that can accommodate unlimited student enrollment.

AIEd encompasses subject-specific learning software, personalized learning management systems, and ITSs, extending its reach beyond Computer Science to

disciplines such as mathematics, medicine, and reading comprehension (Duffy & Azevedo, 2015). It challenges traditional notions regarding class size, pedagogy, and instructor roles and is rapidly expanding, with applications such as math tutoring in China and gaining prominence in mainstream HE settings (Schiff, 2021; Hao, 2019; Nye, 2016). The evolving landscape of AIEd offers valuable insights into learner efficacy, positioning it as a significant factor in future learning research (Nye, 2016).

In terms of immediacy and presence, AIEd plays an integral role in shaping students' perceptions of online learning, aligning well with the 24/7 responsiveness characteristic of asynchronous education. Despite AIEd's pivotal role, instructors remain crucial, serving as representatives of the university to students in online education settings.

OpenAI and the Next Paradigm Shift

OpenAI introduced its first commercially viable product, ChatGPT, in November 2022 (Lo, 2023). This language model, based on the GPT (Generative Pre-trained Transformer) architecture, specifically GPT-3.5, represents a significant advancement in natural language processing (Roumeliotis & Tselikas, 2023). ChatGPT is engineered to mimic human-like text generation and engage in versatile conversations, having been trained on a diverse array of internet text to comprehend and produce contextually relevant responses. Interacting with ChatGPT involves users providing prompts or questions, with the model generating coherent and contextually appropriate replies (Lo, 2023). Embedded within OpenAI's broader non-

profit mission to advance natural language processing and AI capabilities, ChatGPT facilitates sophisticated, context-aware interactions between users and AI systems.

Lo's (2023) extensive literature review delved into recent research on OpenAI, providing insights into ChatGPT's performance across academic domains. While excelling in areas such as economics and meeting expectations in programming, there is room for improvement in subjects like mathematics (Frieder et al., 2023). Despite its potential as a supportive tool for educators and a virtual tutor, aiding in content creation, guidance, query resolution, and collaboration, ChatGPT poses challenges, including the generation of inaccurate information and evasion of plagiarism detection (Ventayen, 2023).

Lo (2023) advocates for immediate actions to address these issues, emphasizing the need for a realignment of evaluation methodologies and institutional regulations in educational settings. Simultaneously, proposals for instructor training and student education aim to effectively navigate and address the implications of ChatGPT's integration into the educational landscape (García-Peñalvo, 2023). OpenAI's acknowledgment for advancements in AI and natural language processing highlights its impact on online teaching, with the potential to enhance various aspects of educational technology.

Content Generation and Personalization

According to Lo (2023), ChatGPT could serve as a valuable assistant for both instructors and students. Instructors can classify ChatGPT's functions into various

categories, including teaching preparation, language translation, and assessment (Wang et al., 2023). Teaching preparation tasks encompass generating course materials and providing suggestions, while assessment tasks involve creating assessment tasks and evaluating student performance. Megahed et al. (2023) demonstrated ChatGPT's usefulness in teaching preparation by utilizing it to develop a course syllabus, finding its teaching suggestions to be implementable with minimal modifications. Overall, the language models developed by OpenAI, including ChatGPT, exhibit remarkable proficiency in generating coherent and contextually relevant text. This proficiency holds significant promise in education, facilitating the creation of high-quality educational content. Furthermore, these models generate personalized learning materials, adapting content to suit individual student needs. This personalized approach caters to diverse learning styles and preferences, thereby enhancing the online teaching experience.

Other Applications of ChatGPT

Students who encounter challenges in essay writing and structuring may utilize ChatGPT to generate an example paper, focusing on understanding the structure rather than relying solely on content, thus addressing concerns regarding authenticity (Vos, 2023). In this approach, learning shifts towards applying the format or layout. Subsequently, instructors can provide support as students commence their papers using the ChatGPT-generated example, thereby fostering immediacy and social presence.

Additionally, instructors have the option to request ChatGPT to develop a learning module on the ethical use of ChatGPT within their course (Englund et al., 2017). This guidance facilitates open discussion on policy and relevant industry applications, equipping learners with practical and transferable skills essential for employment (Pew Research, 2023). Employees across various sectors, such as healthcare, leadership, and human resources positions, must proficiently create and interpret company policies (O*Net, 2024). Assisting students in navigating authenticity issues reflects a caring approach expected to enhance social presence.

Furthermore, instructors can guide students in critically evaluating the output generated by ChatGPT (Greenfield, 2023). This approach enhances skills such as critical thinking and learning, ensuring that generative technology complements rather than replaces these essential cognitive abilities (Seo et al., 2021). The potential applications of ChatGPT in higher education are limited only by the creativity and dedication of humans to extract information and foster the capabilities of AI.

Automated Grading and Assessment

The sophistication of OpenAI's technology, particularly in language understanding, holds the potential to significantly impact the assessment and grading processes in online education. McMurtrie (2023) highlights artificial intelligence (AI) technologies, such as ChatGPT, as a crucial element in shaping the future of education. One proposed approach for enhancing assessment methods involves equipping educators with tools to utilize testing not only for evaluation but also as a

means to facilitate learning itself. Automated grading systems driven by OpenAI's models can offer efficiency and personalized feedback (Mhlanda, 2023), streamlining the evaluation process for educators while providing students with timely and tailored feedback to support their learning progress.

ChatGPT has the capability to devise teaching methodologies, enrich student engagement and collaboration, and foster practical, experiential learning. Despite being regarded as a disruptive technology, ChatGPT represents a significant opportunity to transform the educational landscape (Mhlanda, 2023; Seo et al., 2021).

Chatbots and Virtual Assistants

Chatbots, also referred to as conversational agents or dialogue systems, are software applications designed to emulate human conversation through text or voice, and they have garnered attention within educational contexts (Rudolph et al., 2023; Yin et al., 2020). Despite their inception as early as 1966 (Weizenbaum, 1966), recent advancements in artificial intelligence (AI) have considerably expanded their utilization. Illustrative examples such as BookBuddy, which assists in English (Ruan et al., 2019), and StudBot, which addresses Academic Advising queries (Vijayakumar et al., 2019), underscore the versatility of Chatbots. Notably, agents like Sammy, offering 24/7 tutoring across various courses (Gupta & Jagannath, 2019), contribute significantly to student accessibility and engagement, playing pivotal roles in one-to-one dialogues, comprehension building, motivation

enhancement, and collaborative learning (Tegos et al., 2019). Beyond mere responsiveness, these advanced models foster dynamic and interactive learning environments, fulfilling learners' desires for immediate responses (van Wart et al., 2020). The strength of Chatbots lies in their capacity to operate 24/7 asynchronously, thereby delivering faster response times, thus meeting students' needs for immediacy and accessibility (Aivo, 2020).

Inquiring how this technology can bolster the feeling of instructor and peer social presence in the learning environment, a study by Hew et al. (2023) revealed that the constant availability of chatbots enabled immediate responses and guidance, thereby offering timely assistance to students. This perpetual availability stands in contrast to human teachers with restricted office hours who may not match such instantaneous availability. Moreover, adhering to the principles of multimedia use for learning (Mayer, 2017) and presenting learning content in a conversational format bolstered comprehension. As students set learning goals and engaged in listening tasks, their interactions with chatbots, akin to texting with friends, amplified student engagement during online learning (Hew et al., 2023).

With the integration of natural language processing capabilities, chatbots empowered by OpenAI's models adeptly address student queries (Hew et al., 2023). They furnish accurate and timely responses, engaging in meaningful conversations. This functionality substantially augments the overall responsiveness of the online educational experience. The integration of OpenAI's models into chatbots signifies a

transformative leap towards cultivating more engaging, interactive, and student-centric online learning environments, aligning seamlessly with the evolving landscape of modern education. While concerns about academic integrity persist (King, 2023), and some scholars have raised questions regarding whether these technologies may diminish the role of human educators (Kooli, 2023), it is evident that these tools have made their mark, irrespective of higher education's readiness. The future might see a two-tiered support system where students interact with AI-assisted tools for straightforward questions or initial support and subsequently seek assistance from human instructors, tutors, and support services as needed.

Applications of Chatbots

Instructors have the option to utilize chatbots for managing common inquiries from prospective students, providing initial guidance on accessing learning resources, or directing learners to specific articles recommended for assignments (Seo et al., 2021). However, for addressing more complex guidance and instruction, a human instructor is generally more effective. In such scenarios, the chatbot could be programmed to prioritize by complexity, addressing lower-priority issues and referring learners to instructors for higher complexity or advanced-level matters (Aivo, 2020; Seo et al., 2021). To streamline the process, the bot could directly link the learner to an individual instructor’s calendar to schedule the necessary appointment or initiate a phone call with the instructor. Moreover, the chatbot could present the student with options for communication modes, fostering further student

engagement and agency (Purdue, 2024).

Chatbots designed for courses could be fashioned with the picture and voice of the course instructor to enhance social presence. Additionally, the bot could offer additional options such as viewing/listening to the instructor biography or the course welcome, further enhancing social presence (Fiock, 2020). Notably, recent advancements in AI have garnered national news coverage, with actors striving for (and succeeding in obtaining) creative control over their images and voices in the entertainment industry (Dalton, 2023). According to The Associated Press (2023), studios acknowledge the potential of AI to utilize actors' past work (voice and image) to create new content, emphasizing that a singular contract for a movie only permits usage within that particular movie. The authors caution universities to strike a balance between the utility of voice and image and legal and ethical considerations.

Other Applications of OpenAI in Education

OpenAI's models play a significant role in advancing natural language interfaces, which facilitate intuitive interactions between students and online learning platforms (Mhlanda, 2023). This innovation aims to streamline the user experience by allowing students to communicate with educational technology using their natural language, ultimately enhancing accessibility and engagement in online learning. Furthermore, these models contribute to overcoming language barriers in globally-reaching online courses by providing real-time language translation services (Mhlanda, 2023). This feature makes educational content more accessible and

inclusive for a diverse audience of students worldwide. Additionally, OpenAI's models are instrumental in enhancing content creation by providing educators with a valuable tool for analyzing and summarizing vast amounts of information (Mhlanda, 2023). By automating the process of sorting through educational resources, these models assist educators in efficiently finding relevant materials, saving time, and creating more engaging and effective learning materials.

Barriers to Equity, Access, and Fairness

Disparities in AI technology access can exacerbate educational inequalities based on socioeconomic factors, race, and location (Sanders & Scanlon, 2021). Termed the "digital divide," this gap affects those lacking access to devices like phones, laptops, or affordable data plans (Sanders & Scanlon, 2021; vanDijk, 2006). According to the FCC cited in Sanders and Scanlon (2017), inadequate broadband access affects 26% of rural Americans and 32% of those on tribal lands, versus 1.5% in urban areas. Notably, parts of large cities like Chicago and Los Angeles also face digital disparities (Sanders & Scanlon, 2017). Research shows a link between computer access and higher income, education levels, and professional occupations (vanDijk, 2006). Pew Research (2023) highlights that one in five adults accessing the internet solely via their phone are more likely to be Black or Hispanic. However, some learning management systems may not be functional on mobile devices. For example, proctored exams often require a laptop or PC with a web camera, excluding phone-only users.

Racial disparities persist in online learner enrollment, with a majority being White, as reported by the National Center for Education Statistics (NCES; 2023). Rawas (2023) underscores ChatGPT's potential to enhance access to educational resources for students with disabilities or those unable to participate in traditional classrooms. To address these disparities, faculty and university disability services should work actively to minimize technological gaps and promote equitable access to AI tools and educational resources (Tlilli et al., 2023). Despite these challenges, universities and faculty must collaborate to mitigate technological disparities, ensuring equitable AI tool access (Seo et al., 2021). Seo et al. (2021) propose involving humans in AI decision-making to balance technology's potential for improving student engagement and learning against the risk of over-standardization through AI prescribing acceptable responses and behaviors. As AI output may contain biases until it reaches human-like perfection, vigilance is crucial in navigating its usage in education.

Instructor Perceptions as a Potential Barrier

While enthusiasm for exploring new technologies is widespread, some instructors are labeled as "want nots" due to their lack of need, preference, or time for computers (van Dijk, 2006, p. 226). Additionally, some individuals avoid technology due to concerns about privacy or perceived dangers of connectivity. Zhao et al. (2006) suggest that instructors assess technology based on factors such as time saved, effectiveness in achieving outcomes, and perceived ease of use. Given that

instructor time is limited by teaching duties and administrative tasks, time management significantly impacts digital competency (Gkrimpizi et al., 2023; Lee et al., 2022; Mercader & Gairin, 2020; O'Doherty et al., 2018; Preisman, 2014). Learning new technologies may be viewed as burdensome, leading to resistance or uncertainty, with instructors deeming adequate IT support crucial for success in the online environment (Gkrimpizi et al., 2023).

Transparency in AI application is essential for ethical and responsible deployment. Regular forums, workshops, and discussion groups foster ongoing dialogue among students and educators regarding AI's ethical use (Mhlanga, 2023; Rawas, 2023). Transparent usage entails educating students about AI algorithms and data sources, elucidating information processing and response generation processes, and providing clear explanations of AI's role in education and academic work, including grading criteria (Mhlanga, 2023; Rawas, 2023). Furthermore, universities and educators should clarify responsibility in case of incorrect AI-generated information, outlining the process for determining consequences (Seo et al., 2021).

Concerns about academic integrity arise with the integration of AI in assessments. Rahman and Watanobe (2023) emphasize the importance of recognizing the risk of academic dishonesty in online exams facilitated by AI, such as ChatGPT. Establishing clear guidelines and communicating expectations regarding the ethical use of AI tools is crucial to maintain academic integrity (Rahman & Watanobe, 2023). McMurtrie (2023) addresses concerns about

ChatGPT's impact on essay assessments, where students may delegate assignments to ChatGPT, potentially bypassing plagiarism detection mechanisms. These concerns highlight the need for ethical considerations and challenges to be addressed to ensure responsible AI implementation in academic settings.

In conclusion, while ChatGPT presents promising opportunities in higher education, ethical considerations and challenges must be acknowledged and addressed. Embracing transformative possibilities while navigating risks associated with academic integrity is essential for the responsible implementation of ChatGPT and other AI technologies in higher education.

References to Follow

Toward an Automatic Feedback System for Coding Assignments using AI

Michael Yu-Chi Wu

In the world of Information Systems (IS), the ability to write code that instructs machines what to do is very important for application development, data extraction and analysis, network packet filtering, business process building, and batch processing automation. In order to acquire this skill, one has to practice writing codes, refine them through iterations, and learn from mistakes with the help of feedback. Thus, it is imperative to have timely and helpful feedback when learning how to code. Manual human feedback may offer valuable insights into what to fix but can often be time-consuming and sometimes inconsistent. On the contrary, automatic feedback systems, though they can be done in real-time, have shown traditionally to possess a very limited understanding of codes due to their reliance on static approaches (e.g., expert systems), basic code reading capabilities (i.e., token and pattern matches), and black-box testing (input/output validations). In recent years, new generative AI modalities, such as ChatGPT-4, have succeeded at high-level human conversation and even at generating computer code. Advanced tools such as ChatGPT-4 are trained on massive amounts of data generated from different sources, including Wikipedia and code repositories such as GitHub. Designed for conversational interactions, these systems can handle follow-up questions and flag them as such; they can accept or reject corrections, invoke common assumptions, and point out ambiguities and defaults. As such, AI has the potential to empower people to learn how to write code interactively—one of the more challenging subjects that often haunts many students. With quick feedback on their codes, learners can apply quick fixes immediately and learn from their mistakes.

For this research, we propose how we use AI with specific prompts based on our experience in providing intuitive feedback to student code. This empowers learners to improve their coding abilities by practicing and refining code independently, aided by insightful real-time feedback provided by AI. Over the years, we have conducted both undergraduate and graduate-level C# programming classes. These classes center around solving programming problems that involve syntaxes, semantics, and logic. Our feedback system thus operates at three levels: syntax, semantics, and complex logic. Students are then encouraged to fix their code and solutions according to our suggestions. Ultimately, the objective is to develop an automatic feedback system using generative AI to get as closely as possible to human-level feedback through prompt engineering and fine-tuning.

The Millionaire's Club: A Consequence from 23 years of Teaching Behavioral Finance

Background

I was among the very first to teach behavioral finance and have taught it for 23 years. In recent years, I have become aware that 28 of my former students have become millionaires, 26 by age 40.

My Goal

I would like to present a session in which I describe the students' success, the content of the class, and what makes it happen.

Background

The University of Houston has few students from wealthy families. Over 60% of our students receive financial aid. About 40% are first time in college. My favorite story is that of Vu Tran, who was featured in our Bauer College publication (see link below). He came to the US as a refugee at age 8. His family had no money and did not know English or the American culture. At age 38, he and wife Vicky were worth over $2 million and debt free. Lack of role models and resources make wealth accumulation much more difficult for low income students. For example, Vicky's mom (now in her 70s and a survivor of the fall of South Vietnam) tells Vicky and Vu that their equity holdings (stocks and bonds) don't count because governments fall. Only real estate and cash in the bank count.

The Class

The class is offered for both undergraduate and MBA students. The core intellectual components are Hogarth's concept of uncertainty, Brunswik's Lens Model, the efficient market hypothesis, a contrast of behavioralist and rationalist paradigms, and coverage of behavioral finance (e.g., prospect theory, mental accounting, nudge).The class has a strong experiential component. Students predict outcomes of horse races and perform a lens model analysis of their judgments. The highlight of the class is a stock market simulation (derived from a Vernon Smith double oral auction experiment).

I tell my students that I have three jobs: 1) showing them that becoming wealthy is a good thing, 2) showing them how to become wealthy, and 3) convincing them that they can become wealthy. The first two are easy and can be done within several hours of class. The third is a big challenge. We spend most of the semester on it

For more information, see

1) Fall 2023 syllabus for my undergraduate behavioral finance class.
https://www.dropbox.com/scl/fi/vhpa0dly87uu8m1lkdalr/4310-Syllabus-Fall-2023-8-14-2023.doc?rlkey=ownbtcz99zmguxaoqf9298l7w&dl=0

2) Bauer College article "A Million Reasons."
https://www.bauer.uh.edu/news/2022/a-million-reasons/

3) Kim, Vicky, and Vu (who were featured in the article) visited my class virtually. The recording is linked below
https://www.dropbox.com/scl/fi/xyhc3fm93flskiv6p5k8j/Millionaire-Panel-Vicky-Vu-Tina-10-21-2021.mp4?rlkey=faer4lkas0ag74ereb4r0hxa8&dl=0

4) When I posted the article on LinkedIn, a number of former students commented.
https://www.linkedin.com/in/dale-rude-b129b89/recent-activity/shares/

Note. You may have to copy and paste links into your browser.