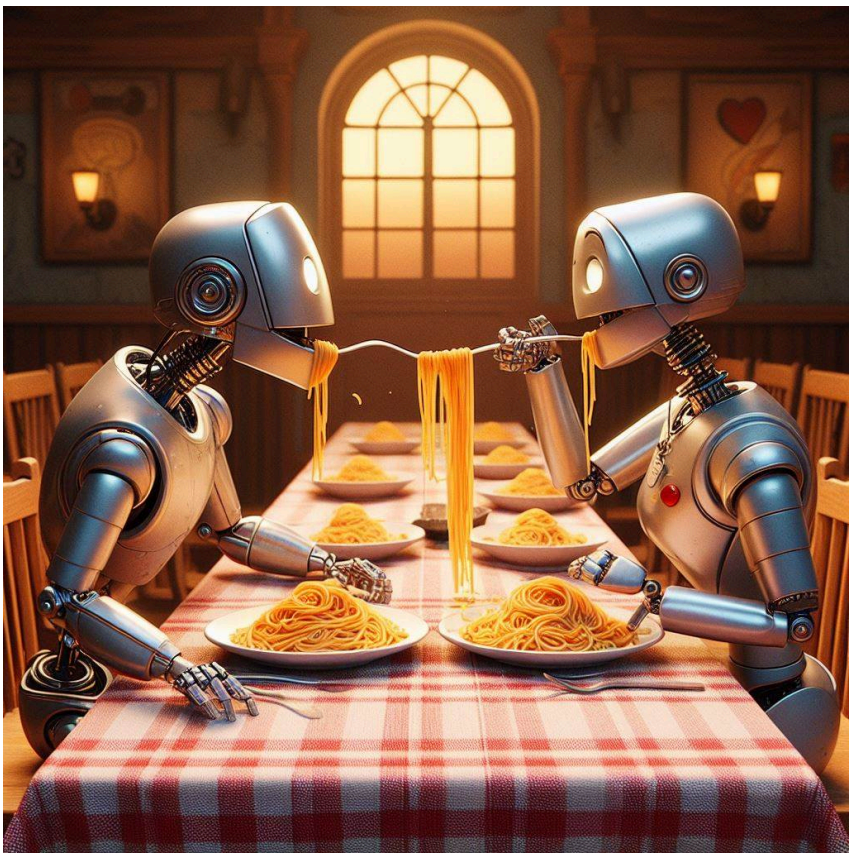
TOPkit Workshop 2024
AI Potluck Shared Document

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Introduction

This working document is in no way comprehensive, but it captures some of our exploration as we continue to consult new resources related to AI in Higher Education.

TOPkit 2024 “AI Potluck” Shared Notes

Breakout 1

Rozalind Jester, FALCON is an informal group founded in 2024 to connect higher-education faculty and staff interested in the intersection of artificial intelligence and higher education. It has no membership fees and anyone can join.

- Register for the April 2 Meeting
- Google Group (Official membership channel)
- Special Interest Group (SIG) Sign Up

Kevin Corcoran “...Steal from Roz”

- Yes, please do! CC licensed content: AI in Higher Education Resources from Florida SouthWestern State College

Liza Schellpfeffer, Valencia College - Destination Faculty Development on AI, Unlocking the Potential of AI Conference 2024 on Friday, October 25, 2024, at Valencia College West Campus Special Events Center

Michael Delgado, USF, Repercussions of generative AI on content creation. I work at USF as a learning designer, working mostly with faculty and they are exploring how to incorporate AI into their courses, mainly in their assessments.

Skylar Johnson: I am an ID at Univ of Fl college of pharmacy. One thing I have to share is something that a central department in the university made (center for instructional technology and training) — it’s an AI prompt “cookbook” - it’s an open resource: https://docs.google.com/document/d/1wSfvKfKcG0qto0UJVsVfzLYFCaEc0M5NszzIWO5j-ug/edit#heading=h.199rx1x58dj3

Breakout 2

Rebecca McNulty:

Anastasia Bojanowski: If it can fool me, that’s great! Students are craving guidance.

Judith Reymond: The technology has the potential to facilitate text production when the assignment isn’t about the writing.

Jillian Patch: A potential renaissance for the humanities. Balancing supporting faculty that want to embrace AI and supporting those who wish to proceed with caution.

Bren (UCF): Encouraged to use AI for work products but still exploring.

https://stars.library.ucf.edu/cgi/viewcontent.cgi?article=1097&context=oer

Juli Ross: Guiding students can make us more optimistic about AI: it's a tool that we're learning to use.

Katherine Kline: AI is helping us to engage with faculty and students.

Jessica Campusano: This is a journey! All we can do is champion the work. AI will continue to get better and better.

Swasati Mukherjee: IDs are playing with this (and tinkering) with GenAI in the design space: creating rubrics, generating overviews and module intros. We're learning to use the tool so that we can continue to increase the value of the output.

Leota O'Malley: Developing workshops and faculty development. AI-explorer! Use AI to generate course and module-level assignments to support alignment.

Breakout 3

Resources

- McDonald, N, Johri, A, Ali, A., & Hingle, A. (2024). Generative artificial intelligence in higher education: Evidence from an analysis of institutional policies and guidelines.
- "University Policies on Generative AI" Padlet created and maintained by Tracey Moore, Western University of Health Sciences

University of Central Florida

FCTL, Artificial Intelligence

Category 1: Neutralize the Software

Category 2: Teach Ethics, Integrity, and Career-Related Skills

Category 3: Lean into the Software's Abilities

Category 4: Use the software to make your teaching/faculty life easier

AI Glossary

AI Fluency

- Understanding how AI works
- Deciding when to use AI (and when not to)
- Valuing AI
- Applying effective prompt engineering methods
- Evaluating AI output

- Adding human value
- Displaying digital adaptability

Sinclair College - Dayton OH

Artificial Intelligence Team Final Report

Cross-Functional Team formed with eLearning Division and Center for Teaching and Learning as sponsor/co-sponsor.

Final Report includes:

1. Background of Sincliar's AI Team
2. Overview of Gen AI
3. Current Status of Employee and Students
4. Guidance for Integration of AI
5. Recommendations to College Leadership

AIFinalReportWeb.pdf (sinclair.edu)

Oregon State University Online, Ecampus

Faculty Support: AI Tools

Overview: Guidance for online course development and the use of artificial intelligence tools

- Ethics statement
- Principles
- Detailed resources for teaching and learning

AI Decision Tree

- AI decision tree (graphic) (CC BY 4.0)

Promoting Students' AI Literacy

- Why AI literacy?
- AI literacy frameworks
- Addressing AI literacy
- Further reading on AI literacy and integration

Advancing Meaningful Learning in the Age of AI

- Bloom's Taxonomy Revised (graphic) (CC BY 4.0)

Practical Strategies, Recommendations, and Samples

- Early Steps
- Additional Recommendations
- Assignment redesign ideas
- Sample syllabus statements

AI Readiness Playbook

Missouri Online

Overview: Generative AI

What is generative AI?

- What generative AI can do
- What generative AI cannot do

Generative AI in teaching and learning

- Issues posed by generative AI for teaching and learning
- Questions to ask yourself about generative AI in your classes
    - Course policy on student use
    - Plagiarism detection
    - FERPA, privacy, and choice
    - Accuracy and biases
    - Reinvigoration of teaching and learning
    - Cultivation of 21st century skills
    - Prompt engineering
    - Overall questions to consider
    - Resource: Issues Posed by Generative AI for Teaching and Learning (PDF)

Discussing AI with your students

- Discussing AI with your students
- Topics to consider covering

Common generative AI tools

- Text generation
- Image generation
- Embedded productivity tools

Additional AI resources

Office of Educational Technology (OET)

Artificial Intelligence

Report: Artificial Intelligence and the Future of Teaching and Learning

Key Insights:

- AI enables new forms of interaction
- AI can help educators address variability in student learning
- AI supports powerful forms of adaptivity
- AI can enhance feedback loops
- AI can support educators

Recommendations:

1. Emphasize humans in the loop
2. Align AI models to a shared vision for education
3. Design using modern learning principles
4. Prioritize Establishing Trust
5. Inform and involve educators
6. Focus R&D on addressing context and enhancing trust and safety
7. Develop education-specific guidelines and guardrails

Listening Sessions: AI and the Future of Learning [YouTube]

Listening Sessions: AI and the Future of Teaching [YouTube]

Listening Sessions: AI and Priority Research Areas [YouTube]

Listening Sessions: AI and the Future of Assessment [YouTube]

Blog: Engaging Educators

Blog: Product Roadmaps and the Path to Safe Artificial Intelligence

Blog: New Interactions, New Choices

Blog: Defining Artificial Intelligence

University of Florida

Snapshot of AI

- Course Registration
- This course first provides an introduction to Artificial Intelligence and explores the importance of the technology. It then covers machine learning and the types of machine learning.
- By the end of this course, students will be able to:
    - Define artificial intelligence.
    - Explain the importance of artificial intelligence and why we should care about it.
    - Explore the concept of machine learning and its different types and applications.

Introduction

- Intro video, Diego Alvarado, M.E., Instructional Assistant Professor, College of Engineering

Lecture 1: What is AI? (16:58)

- In the first part of this video, we will be talking about what artificial intelligence (AI) is, and we will start to define what AI is. In the second part of the video, we will be talking about why AI is so important today. AI is a potent tool that can help humanity move forward in various fields with many different applications.
- What is AI?
    - A branch of computer science
        - Rational Agents:
            - Machine Learning
            - Planning/Optimization
            - Human-AI Interaction
            - Game Playing
            - Natural Language Processing
            - Computer Vision
            - Speech Recognition
            - Robots
    - Concerned with getting computers to do intelligent tasks
    - Composed of several subdisciplines
    - Has had great success in narrow domains
- The importance of AI
    - AI is all around us
        - Content recommendation

        - Self-driving cars
        - Stock trading
        - Retail
        - Eating
    - The Fourth Industrial Revolution
        - 41R, Industry 4.0
        - Coined by Klaus Schwab, World Economic Forum
    - Predictions for the future
    - Implications
        - Bias
            - Important decisions
            - Online advertising/ Social networks
        - What is Real?
            - How do we determine reality now?
            - What about evidence?
            - Can this be damaging?
        - Privacy
            - Data collection
            - Using AI to identify individuals
            - Can this be damaging?
        - Changing work
            - What industries will be affected the most?
            - Are we really going to be replaced?
            - Can this be damaging?

Lecture 2: Machine Learning & Supervised Learning (33:15)

- In this video, we're going to start exploring machine learning, one of the most popular topics of artificial intelligence. The video also introduces the different types of machine learning.
- Machine learning
    - The art of extracting knowledge from data
    - A branch of computer science

    - "Machine learning is the study of computer algorithms that allow computer programs to automatically improve through experience." – Tom Mitchell, Carnegie Melon
    - Working with data
        - Suggestion
        - X-Ray Description
        - Image Recognition
- Types of machine learning
    - Supervised Learning:
        - Learns a function that best approximates the relationships
        - Called supervised (there is a teacher or supervisor)
        - Uses labeled data
        - Predicts the value
        - Provides an accuracy check (confidence check)
        - Classification:
            - Identify fraud detection
            - Image classification
            - Customer retention
            - Diagnostics
        - Regression
            - Population growth prediction
            - Estimated life expectancy
            - Market forecasting
            - Weather forecasting
            - Advertising popularity prediction
    - Unsupervised Learning
        - Goal: To model the underlying structure of the data
        - Called unsupervised learning (there Is no teacher or supervisor)
        - Uses unlabeled data
        - Predicts the value

        - Complicated evaluation
        - Dimensionality Reduction:
            - Big data visualization
            - Meaningful compression
            - Structure discovery
            - Feature elicitation
        - Clustering
            - Recommender systems
            - Targeted marketing
            - Customer segmentation
        - Association
    - Reinforcement Learning
        - Model where you want to find the mapping function given an objective
        - Goal: To achieve a goal/objective in an uncertain complex environment by making a sequence of decisions
        - Game-like situation
        - Advantages:
            - Maximize performance
            - Increases behavior
            - Sustain changes
        - Disadvantages:
            - Could lead to overload (non-desire states)
        - Real-Time decisions
        - Robot navigation
        - Learning tasks
        - Skill acquisition
    - Neural Networks (part of supervised learning)
        - A series of algorithms that endeavors to recognize underlying relationships in a set of data through a process that mimics the way the human brain operates

- System of neurons, and layers
- Adaptability
- Advantages:
    - Parallel processing capabilities
    - Storing information in network
    - Work with incomplete information
    - Fault tolerance
- Disadvantages:
    - Hardware dependence
    - Unexpected behavior
    - Structure
    - The Problem: hard to translate problem into binary

A Brief Introduction to the Ethics of AI

- Course Registration
- This course provides a framework for identifying and navigating some of the ethical issues arising from AI applications. By the end of the course, you will have a basic understanding of the ethical ramifications of AI applications.
- By the end of the course, you will be able to:
    - Identify the nature of ethics and some central ethical concepts.
    - Briefly discuss how these concepts apply to AI applications across various domains and some of the ethical concerns arising from these systems.

Introduction

- Intro video, Elizabeth Palmer, PhD, Lecturer, Philosophy

Lecture 1: Introduction

- As we apply tools involving artificial intelligence to areas in which all problem-solving and decision-making would formerly have been done by human beings, we should first discuss the basic definition of artificial intelligence and how it works today.

Lecture 2: Emerging Ethical Issues in AI

- Morally responsible work in artificial intelligence requires understanding the ethical issues surrounding the data we obtain and use, the algorithms we employ, and their impact on people.

Round Table Discussion

- In this roundtable discussion, the use of AI applications in policing and the judicial system is debated. The use of AI raises numerous questions about the nature of fairness and how best to ensure that we meet our social aims ethically and responsibly.

    - AI applications are pervasive in law enforcement and the judicial system. For example, many police departments are using AI applications to identify potential hotspots for crime and then allocating their resources accordingly. Critics contend, however, that the data used to train these systems and generate the hotspot data are based on discriminatory policing against people of color. Because the data is biased, the output produced by the system is biased (Garbage in, garbage out). If correct, this is particularly problematic because it leads police to focus their resources in particular communities, frequently resulting in harmful over-policing.
    - Consider another example: in 2016 ProPublica released a piece of investigative journalism that accused a popular risk-assessment AI application, Northpointe's COMPAS, of bias against Black individuals. The software wrongly predicted Black individuals as being at "high risk" of recidivism more than twice as often as it wrongly predicted White individuals to be "high risk." COMPAS also falsely predicted White individuals of being "low risk" more than twice as often as it did for Black individuals. Northpointe defended its risk-assessment algorithm as being fair according to many accepted statistical measures of fairness.

Intro to AI Applications

- Course Registration
- This course aims to provide an iterative framework to develop real-world machine learning systems that learn from data, reason with data, are deployed, reliable, and scalable. The focus of this course is to introduce basic modules of machine learning systems, namely, data management, data engineering, feature engineering, approaches to model selection, training, scaling, how to continually monitor and deploy changes to ML systems, as well as the human side of ML projects such as team structure and business metrics.
- By the end of this course, students will be able to:
    - Define basic terminology for Artificial Intelligence (AI), Machine Learning (ML), and Deep Learning (DL) tools.
    - Identify basic principles of data collection.
    - Identify basic principles of data and feature engineering.
    - Select the correct model for a particular task or application.

Introduction

- Intro video by Catia Silva, PhD, Instructional Assistant Professor, Electrical and Computer Engineering

Lecture 1: Introduction to Artificial Intelligence and its Applications (15:35)

- In this video, you will learn about artificial intelligence, decide when to use it, and explore how it is used in several application domains as well as future applications.
- "The Five Big Ideas of AI": AI4K12, Research into K-12 Curriculum

    - Perception: Computers perceive the world using sensors.
    - Representation & Reasoning: Agents maintain representations of the world and use them for reasoning.
    - Learning: Computers can learn from data.
    - Natural interaction: Intelligent agents require many kinds of knowledge to interact naturally with humans.
    - Societal Impact: AI can impact society in both positive and negative ways.
    - Infographic (CC By NC SA)
- Data-powered AI:
    - Faster decisions
    - Reduction in human error
    - Takes risks instead of humans
    - Availability 24x7
    - Digital assistance
    - Daily applications
    - New inventions
- Artificial Intelligence vs. Machine Learning vs. Deep Learning
    - What is Intelligence in Artificial Intelligence?
    - Unstructured Data vs. Structured Data
        - Deep learning works with unstructured data
        - Machine learning requires structured data

Lecture 2: Artificial Intelligence, Machine Learning, and Deep Learning (14:53)

- In this video, we will explore the differences between artificial intelligence and machine learning. In addition, we will explore deep learning.

Lecture 3: Components of Machine Learning (22:17)

- In this video, we will cover feature engineering, the basic components of a machine learning system. and metrics for selecting a model.

Quick Glance at Statistical Inference

- Course Registration
- In this course, we will cover two basic concepts in data science, confidence interval, and hypothesis testing. These concepts are important for interpreting results and drawing conclusions from statistical analysis. They also play important roles in scientific research and real-life applications.
- After completing this short course, you will be able to:
    - Construct a confidence interval
    - Perform hypothesis testing

Introduction

- Intro video, Jason Harrington, PhD, Senior Lecturer, Mathematics

Lecture 1: Confidence Interval (21:03)

- Zhihua Su, PhD, Associate Professor, Statistics: This video describes how to construct an interval estimate, which also includes the margin of error due to the uncertainty of sampling.
- Confidence Interval for a Population Mean
    - Suppose we want to estimate a population mean p
    - The ideal approach is to measure all individuals and take the average, but we have limited resources

Lecture 2: Hypothesis Testing (27:17)

- This video covers the construction of hypothesis testing and the procedure to perform hypothesis testing.

Snapshot of AI for STEM Learners

- Course Registration
- Artificial Intelligence, or AI, is at the forefront of innovation and technology advancements in a wide range of applications. This course provides the framework for identifying and applying AI systems for real world applications. By the end of the course, you will have a basic understanding of all the components of an AI system.
- By the end of this course, students will be able to:
    - Identify different types of learning in Machine Learning.
    - Identify different types of intelligence in Artificial Intelligence.
    - Identify different components of an AI system.

Lecture 1: What is the Intelligence in Artificial Intelligence?

- When we refer to intelligence and AI, we tend to imagine robots with human features and thoughts, however, AI is not quite there yet. We will discuss the intelligence in Artificial Intelligence and define paradigms of intelligence as it stands today.

Lecture 2: What is the Learning in Machine Learning?

- In order to understand Machine Learning (ML), we should first understand what is learning in the context of ML. This lecture will introduce different types of learning and how we can utilize them to build AI systems.

Readings

Goodfellow, I., Bengio, Y., & Courville, A. (2016). *Deep learning*. MIT Press.

- Chapter 1 – Introduction: This chapter introduces the basic concepts of artificial intelligence, machine learning, and deep learning as it applies in STEM fields.

Raschka, S., & Mirjalili, V. (2015). *Python machine learning*. Packt Publishing Limited.

- Chapter 1 – Giving Computers the Ability to Learn from Data: This chapter introduces the different types of learning in Machine Learning and the components of an AI system.

Gori, M. (2018). *Machine learning: A constraint-based approach*. Elsevier.

- Chapter 1 - The Big Picture: This chapter provides yet another perspective on basic principles of Machine Learning and Artificial Intelligence.

Alphafold: A solution to a 50-year-old grand challenge in biology

- This article describes the work of DeepMind's team in developing AlphaFold. It includes technical details about the model's architecture and AlphaFold's real-world impacts.

Solving Rubik's cube with a robot hand

- This article describes the technical aspects of the experimental design, model design and training for a new baseline of dexterity in a robot hand developed by the OpenAI team.

Cheaper faster drug development validated by the repositioning of drugs against neglected tropical diseases

- This paper describes the software design of robot's Eve as a scientist in the lab conducting laboratory experiments.

Computing machinery and intelligence

- In this article, Alan Turing proposes a first test of intelligence - widely known as the "The Turing Test".

Preparing for AI in Medicine

- Course Registration
- Welcome to an Introduction on AI In Medicine. This short course will serve as primer for understanding the basics of machine learning and its current and future applications in Medicine. The course includes 4 lessons that address medical applications for AI, members of the AI team, basic AI terminology, and future directions for AI. Each lesson includes interviews from expert doctors discussing the lesson material along with their perceived impact on healthcare. We hope this introductory course interests you and encourages you to participate in our subsequent courses that provide and deeper and more thorough understanding of AI in Medicine.

Applications for AI in Healthcare

- In this introductory chapter, Dr. Chris Giordano runs through the basics of Applications in AI including the basic definition of AI, expert systems, and how machine learning is being applied in medicine today.

Who Can Benefit from AI Tools?

- In this chapter, Dr. Chris Giordano looks at the very human side of artificial intelligence in medicine. This chapter focuses on all of the individuals, teams, and institutions that contribute and benefit from AI in medicine.

Basic Terms for AI

- In this chapter, Dr. Chris Giordano introduces the field of biomedical informatics while enumerating data types and standards used in AI.

The Future of AI

- In this chapter, Dr. Chris Giordano explores both the broad potential and growing ethical and legal considerations of AI in medicine.

Summary

- Dr. Chris Giordano wraps up the training as we meet our last expert, Dean Colleen G. Koch, the current Dean of UF's College of Medicine as she maps out the ever-expanding and ever-evolving vision of AI in medicine at UF Health and beyond.

Intro to AI in Business

- Course Registration
- This course provides a survey of successful business applications of AI methods/tools for addressing problems in finance, digital platforms, marketing, and supply chain/operations.
- By the end of the course, you will be able to:
    - Identify successful applications of AI tools/methods in addressing business problems.

Introduction

- In this video, Asoo Vakharia, Ph.D., provides a brief introduction about this course, which aims to provide an array of emerging applications related to AI in business. Additionally, C-suite executives with Noodle.ai will discuss their perspective on how AI tools/methods can significantly enhance decision-making skills within a business setting.

AI & Marketing

- Marketing is a business domain with many tasks that are optimized through the use of artificial intelligence (AI). In this segment, we will discuss some of these key marketing activities and how AI improves the business outcome for marketers. Additionally, we will review use cases from successful companies that have implemented AI to create a competitive advantage.

AI & Finance

- AI has been used in finance in a variety of ways, including in a marketing sense, using customers' characteristics to entice them with financial products such as credit cards with different combinations of fees, perks, and interest rates, or brokerage accounts featuring strategies in trading specific assets such as stock options. In this introductory segment we will focus instead on AI applications that are intrinsic to finance, namely, (i) using data to estimate the likelihood that a borrower will default, and (ii) identifying promising assets for inclusion in a portfolio.

AI & Digital Platforms

- In this segment, you will learn how to use machine learning methods to accurately predict product sales (Decision Trees and Random Forest) and perform sentiment analysis on product reviews (Support Vector Machine and Logistic Regression) on e-commerce platforms.

AI & Supply Chains

- In this segment, you will be exposed to how AI tools are used within a supply chain setting. Potential applications and their benefits are also discussed. The segment concludes with an overview of two case studies on successful applications of AI to address supply chain problems.

Intro to AI in Agricultural and Life Sciences

- Course Registration
- What is artificial intelligence (AI), how does it really work, and how is AI being used today? In this course, you will learn how various AI systems are being used by scientists, researchers, and professionals to address some of the most complex and challenging problems facing the agricultural and life sciences field.
- By the end of the course, you will be able to:
    - Demonstrate a basic understanding of modern AI and the history of AI development.
    - Identify emerging applications of AI in the agricultural and life sciences fields.

Introduction

- Bryan Kolaczkowski, PhD, Associate Professor, Agricultural and Life Sciences

Reading:

What is AI?

- What is artificial intelligence or AI? Contemporary AI is a direct extension of traditional methods of statistical inference. It allows scientists, researchers, and professionals in any field to make more complex inferences using more complex data. This reading describes how AI is related to other inference techniques and outlines a brief history of how AI came to be what it is today.

Lecture 1

- Fresh fruits and vegetables are invaluable for human health, but their quality deteriorates during distribution before reaching consumers due to ongoing biochemical processes and compositional changes. Dr. Liu's lab at UF performs interdisciplinary research to address plant science challenges related to food security and human health. This work uses machine learning technologies and multi-omics tools to understand postharvest senescence and microbial spoilage of fresh produce. This research aims to develop a simple imaging tool that can reliably evaluate the quality of produce. Such a tool would allow a new level of postharvest logistics to support the availability of high-quality, nutritious, fresh produce.

Lecture 2

- Dr. Valle uses Latent Dirichlet Allocation (LDA), a method originally developed for text mining, to extract information from large biodiversity datasets. LDA is particularly useful

for data with a large number of species because it enables the visualization of communities and their spatial-temporal patterns. More recently, Dr. Valle's work also extends LDA methods to help better visualize forest structure patterns using Light Detection and Ranging (LiDAR).

Lecture 3

- Geospatial data analysis is foundational for modern data analytics. Geospatial technologies and applications are increasingly ubiquitous, enabling the capture of large and diverse image datasets. Dr. Abd-Elrhaman's research aims at developing and implementing geospatial machine and deep learning analysis techniques to address natural resource management and agricultural challenges. These applications involve using machine and deep learning analysis for land cover classification, invasive plant detection, and modeling crop traits based on high-resolution remote sensing images.

Lecture 4

- Deep learning methods using very large neural networks can achieve super-human performance on complex inference tasks, but these methods require enormously large training datasets. In the biomedical sciences, we don’t have datasets with millions of subjects. Therefore, Dr. Kolaczkowski uses an approach called Generative Adversarial Network (GAN). GAN was first developed to generate photo-realistic images of fake people, but Dr. Kolaczkowski uses GAN to generate the huge amounts of biomedical data required to train deep learning methods to predict a patient’s disease risk reliably.

Lecture 5

- During a strawberry growing season, several major fruit waves can occur based on various factors such as temperature and humidity. Accurately predicting the timing of fruit waves can help growers effectively manage their harvesting resources, but near-future yield prediction is difficult in practice. Dr. Lee uses various deep learning methods and aerial images to identify strawberry flowers, immature fruit, and mature fruit from the ground. The results of these methods are being used to develop strawberry yield prediction models.

Lecture 6

- Predicting an organism's phenotypic traits from genome data has many applications in biology, including applications in clinical disease prediction and crop development. Dr. Kirst uses AI and machine-learning approaches to predict complex phenotypic traits - such as disease risk or crop yield - from genomic data. The results of these studies are expected to improve the reliability of clinical disease risk and the speed with which new crop plants are developed.

Arizona State University

Generative AI

Resources for use in teaching

What is Generative AI?

What are generative AI tools and how are they being used at ASU?

Learn what generative AI tools are and how they are being used. How can the ASU community stay informed and up to date on the latest developments in this field? How can we ensure that we are using these tools to their fullest potential while also minimizing the risks associated with their use?

What generative AI tools are available?

What generative AI tools are available for various types of content creation, including text, visual and audio? Learn the capabilities of what's out there and which tools may require specific technical expertise to use effectively.

How can ASU foster a positive culture around using generative AI?

How can ASU foster a positive culture around incorporating generative AI into teaching, learning, research and creative activity? This will require an ongoing commitment to learning, collaboration and responsible use. How can we approach this technology with an open mind and a commitment to ethical use? How can we unlock its full potential and make new discoveries in a wide range of fields?

In what ways can generative AI impact academic integrity?

How do we cultivate a positive outlook on the potential learning advancements that generative AI can provide? By reframing the conversation from cheating to focusing on how AI is already used in education and how it can effectively improve learning, we can promote a more positive and productive dialogue about this technology in the education community.

In what ways can generative AI impact critical thinking, research and writing?

What are the effects of generative AI tools on critical thinking, research and writing? How can we approach these tools with caution and responsibility, and carefully consider their potential impact on research and writing outcomes?

What are the aspects of social justice in the generative AI conversation?

How can ASU incorporate social justice considerations into the development and use of AI (training, data, discrimination, different types of understanding that are not included in AI tools)? The social justice aspect is crucial for ensuring that this technology is used in ways that are fair, equitable and inclusive for all. How can we recognize and address the potential for bias and discrimination? How can we incorporate diverse perspectives, and promote transparency and accountability? Join the conversation that will discuss how we can create AI systems that are more just and reflective of our values as a society.

Sample Syllabus Statements

University of Denver

University Writing Program

Statement on Generative AI and Writing

September 2023

It is the University Writing Program's position that genAI is a powerful and productive development in the long history of literacy technologies, and that the teaching of writing should include methods of integration and collaboration with these technologies while also interrogating the rhetorical and ethical dimensions of genAI.

In conjunction with this position, the University Writing Program also acknowledges the following:

- GenAI is not a replacement for the *act of writing* and its positive effects on learning. GenAI is an additional dimension to and not a substitute for writing.
- GenAI is not a replacement for understanding what effective writing is and how writing functions.
- GenAI applications are designed by humans, and as such, carry biases and a preference for the mean that can hide diverse voices.
- The technological, social, financial, and legal dimensions of genAI will continue to change over time, so potential use cases will also change. Reliance on any one tool is shortsighted.
- Much like all literacy technologies, genAI is neither an inevitable nor ubiquitous development, and contexts and expectations will change. Thus, writers should be versatile and adaptive, and most importantly, actively contribute to literacy technology development.
- Current genAI is prone to hallucinations, or fabricating evidence, even when prompted with a specific source.

Responsible and Ethical Use of GenAI

Artificial Intelligence (AI) has been an important development in computer technologies, and advances in generative AI (genAI)—AI that can create something new—has been used in the past decade in business and journalism. Developments in genAI, especially those applications that use Large Language Models (LLMs) using billions of parameters, have come in leaps and bounds due to the free sharing of studies from both academia and industry. Nevertheless, it still took some by surprise when, in November 2022, OpenAI publicly released for free ChatGPT, a text-to-prose transformer genAI, that produced extraordinarily articulate writing in a variety of genres, from essays, to computer code, to poetry, to business plans.

The public availability of these powerful applications has provided opportunities for many to explore, play, and collaborate in new ways with literacy technologies. For those

with access, the potential to address skill inequality has shown great promise. Of course, this has also led to profound concerns in higher education about genAI's negative effects, including student use without guidance.

And yet, genAI has already been integrated into Google Docs and Microsoft Word, two of the most popular word processors writers use. The integration of these technologies will continue to proliferate, so that many common applications will eventually have genAI assistance, much in the same way that literacy technologies have developed to include design and formatting elements with little input from a user.

The University Writing Program supports responsible and ethical use of genAI assistive writing technologies by writers and teachers.

For writers, responsible and ethical use means the following:

- Before using any such technology, review the policies and constraints of the rhetorical situation. As a student, this means abiding by instructor policies for assignments communicated in the syllabus, assignment, or verbally. For publications, that means reviewing editorial policies. For business, that means contacting your managers and reviewing company policies.
- It is valuable and ethical to acknowledge in writing what assistive technologies you used and for what purpose. Acknowledgement statements have always been important in academic and professional writing, so it's a good habit to use them in other genres and contexts as well. Some examples might include the following:

"GPT-4 was used for help with wording, formatting, and styling throughout this work."
"ChatGPT was used to help organize early drafts of this project."
"Portions of this articles were revised based on suggestions made by Grammarly."
"Google Bard was used to generate the idea about X in early drafts."

- Review the End-User-License-Agreements (EULAs), privacy policies, and other use documentation so that you understand your rights, the rights of the developer, and the use of data you provide to a company. Never input private, propriety, or protected data to a third-party website without understanding these policies.
- You are responsible for writing that you submit. That means you are accountable for genAI prejudices, misinformation, or fabrications in the texts you submit. A genAI cannot be an author/co-author in the traditional sense of the word, and it should not be cited as such (much as you wouldn't cite Microsoft Word or Google checking these policies.
- Take advantage of opportunities to improve your writing through practice. Such practice might involve interacting with genAI to help you get immediate feedback, but genAI should not be used as a substitute for the process of drafting, revising, and reflecting.

- Make suggestions and offer feedback to application developers to address biases or other potentially harmful results while using such technologies. Do not be a passive user. Docs.)

For Faculty assigning writing tasks, responsible and ethical integration means the following:

- Acknowledge that we are aware that genAI exists and outline clear policies about when and how it can or cannot be used in an assignment or task. Blanket syllabus statements forbidding or giving carte blanche are not as helpful as outlining the ways genAI might be used for specific tasks or giving specific directions not to use genAI for certain parts of the writing process. This should include instruction for writers about how to acknowledge the assistance they received on a text.
- Create time to discuss the ethical implications of using genAI for assigned writing tasks. That means reiterating issues related to inputting protected data for research tasks, responsibilities of ownership for what the writer submits, and importance of context and policy inasmuch that different audiences and purposes might expect or forbid the use of such technologies.
- Encourage students to take an active role in their technology use. Build in discussion or assignments related to a course about genAI's potential impact on your specific discipline or a course topic. While we recognize that it might not be possible to address every potential impact, this statement is a public document and can be a good resource for students in order to get them to begin thinking of responsible and ethical uses as well as larger environmental, financial, and bias concerns of genAI.
- Do not rely on applications that purport to detect genAI use (e.g., Turnitin, and especially, genAI itself) as they are imperfect and produce just as many false positives as false negatives.
- Read writing generously and provide feedback that rewards diverse voices. Recognize that assignments that mirror common writing tasks often lead to the type of writing that the LLMs were trained on. Therefore, encourage new approaches. Multilingual writers, in particular, might turn to genAI if feedback is overly critical of errors.
- Discuss why you are assigning a particular writing task. If students know why you want them to write (e.g., writing-to-learn, writing for an audience, writing to approximate genre features), they are more likely to attempt the task with this intention.

The University Writing Program and University Writing Center are happy to consult with individual faculty or departments on strategies for integrating genAI into writing assignments.

We would also like to share the following additional resources:

- Artificial Intelligence Usage at the University of Denver: Recommendations and Resources for Faculty, Staff, and Students
- MLA-CCCC Joint Task Force on Writing and AI Working Paper: Overview of the Issues, Statement of Principles, and Recommendations
- Statement on Artificial Intelligence Writing Tools in Writing Across the Curriculum Settings
- TextGenEd: An Introduction to Teaching with Text Generation Technologies by Tim Laquintano, Carly Schnitzler, and Annette Vee

Tufts

Center for the Enhancement of Learning and Teaching

Developing Syllabus Statements for AI

It is important that every faculty member create a set of guidelines for their course to clarify how and when students and instructional staff are permitted to engage with generative text based AI. These should be shared in your syllabus and on Canvas.

The evolving capacities of AI systems as learning tools can make it difficult to recognize clear boundaries between tasks helpful for learning and those that might mis-represent a student's knowledge or skills on an assessment or assignment. One can use these tools to answer questions, explain unfamiliar concepts or ideas, brainstorm ideas, revise outlines, create drafts of code or writing, suggest approaches to solving a problem, summarize a paper, and as a copy-editing tool that identifies grammatical and spelling errors. Tufts schools, professional societies and journals are also beginning to explore what effective and ethical use of these systems might look like for academic use. However, at this time it is up to the individual instructor to determine guidelines for its appropriate use by students in each courses.

Developing guidelines that take into account that AI systems are changing and evolving quickly is important. It may be valuable to to explore and revise guidelines in collaboration with your students, and to revisit them regularly. One approach to engaging your students is to develop an activity where they explore the use of an AI tool in an assignment and then, based on that experience, help craft or suggest guidelines for the 'ethical' use of AI within the context of the course assignments. We encourage you to be clear about when and how tools might be used, and to explain why this is important for their learning.

Below are examples that might help inform you in developing your guidelines and links for more example statements. This worksheet might also help you identify which some activities might be acceptable for students in your courses.

A statement sharing guidelines for the use of AI in a course
In this course, you may use AI tools for your learning, just as you can collaborate with your peers for things such as brainstorming, getting feedback, revising, or editing of your own work. However, you may not submit any work generated by an AI program as your own. This is a violation of Tufts Academic Integrity policies.

To help guide you in the use of AI in this course – consider the following guidelines:

1. Familiarize yourself with AI tools, including that: Bias is embedded in the creation of these systems and in their output and you may encounter harmful language and ideas. AI platforms can produce inaccurate or false information with confidence (so called hallucinations, e.g, it frequently invent false references). Text from AI may closely mimic human knowledge, understanding and even human emotions. Many of these tools retain the rights to use your information and the content shared with them in a variety of ways.
2. Cite all AI tools when used or referred to in assigned work. See How to Cite ChatGPT from the APA & How to Cite Generative AI from the MLA.
3. Identify the way it contributed to your work. For example, you can include a statement that you asked an AI to "identify any grammatical or spelling errors" in your writing, or you used it to get started in thinking about topics for your paper. Any statement directly generated by an AI system should be in quotes.
4. If you have questions please ask via email, in office hours or during class.

A statement prohibiting the use of AI in a course:
Since writing, analytical, and critical thinking skills are part of the learning outcomes of this course, we expect that all work students submit for this course will be their own. Additionally, students are not allowed to use any generative artificial intelligence tools (e.g. ChatGPT or Dall-E 2) at any stages of the work process, including preliminary ones. AI-generated submissions are not permitted and will be considered as plagiarism.

A statement encouraging the use of AI:
This course encourages students to explore the use of generative artificial intelligence (GAI) tools such as ChatGPT for all assignments and assessments. Any such use must be appropriately acknowledged and cited, and it is each student's responsibility to assess the validity and applicability of any GAI output that is submitted - you bear the final responsibility. Violations of this policy will be considered academic misconduct. We draw your attention to the fact that different classes at Harvard could implement different AI policies, and it is the student's responsibility to conform to expectations for each course. (Source: Harvard University)

Links to collections of example syllabus statements guiding the use of AI:

- Possible AI Syllabus Statements from Brandeis
- Example Course Policies related to ChatGPT and other AI Tools, Joel Gladd, CWI
- Example Classroom Policies for AI Generative Tools a large collection organized by Lance Eaton, CU

Technology Services

Guidelines for Use of Generative AI Tools

Teaching@Tufts

Designing Courses in the Age of AI

Synthesis Best Practices

1. Housed in Office of Provost
2. Definition for the entire university - What is Generative AI?
    a. Keep it simple:
        i. Missouri Online: Generative AI basically operates as predictive text on steroids: analyzing massive sets of data, generative AI can identify patterns and thereby generate predictions. It can use these patterns and predictions to respond to prompts given from users. For example, ChatGPT builds an LLM (large language model) based on a collection of material it was trained on, and it then uses this LLM to create content in response to user prompts.
        ii. It is this capacity (its output in response to prompts from users) that has engendered worry and concerns among faculty. After all, a student could simply enter some of the requirements for an assigned essay or coding assignment, and ChatGPT could create viable and meaningful content that could serve as all or most of a submission.
        iii. Students and others may recognize the potential of ChatGPT and other tools. However, we all must also remain mindful of generative's AI limitations. We must understand and recognize what it can and cannot do.
3. Ethics Statement for entire university
    a. UF is committed to an ethical and equitable approach to artificial intelligence in its teaching, research and business practices. The university requires an ethics course (Ethics, Data, and Technology) in all certificates and majors related to AI and data science. In addition, UF is part of a global agreement with seven other worldwide university and major industrial leaders committed to the development of human-centered approaches to artificial intelligence. The university signed a commitment to the Rome Call for AI Ethics, joining a network of universities that will share best practices, tools, and educational content, as well as meet regularly to share updates and discuss innovative ideas. The Rome Call for AI Ethic's principles ask for transparency, inclusion, responsibility, impartiality, reliability and security in building AI systems, research, education and workforce development.

4. Guiding Principles
    - From OSU: **Be student-centered** – Decisions to use an AI tool in course development work or in student-based online activities should be centered on whether it provides significant benefit to student learning and whether any risks in using it can be mitigated adequately.

    - **Demonstrate transparency** – If there's a desire to use AI tools to support course development work, stakeholders' approval should be requested in advance. If AI tools are being integrated into student activities or

assignments or used in other functions related to teaching, we will recommend that faculty are clear in the syllabus that such tools would be used.

- **Promote quality and practice integrity** – When AI tools are used, we will ensure that the information provided is vetted by professionals who would be well-versed in whether the information is accurate and credible. If AI tools are used in student assignments, we will work with course developers to ensure that accuracy is considered as part of the work
- **Safeguard privacy and security** – When AI tools are used in any capacity in course development, there will be attention paid to ensuring that personal data is protected and that users are aware of any security risks associated with using the tool(s).
- **Mitigate bias** – When AI tools are used, we should assess to the best of our ability whether there might be risk of biased information being produced and determine how to address this.
- **Ensure access** – When AI tools are required in a course, they should be available and accessible to all users.
- **Establish accountability** – Regardless of how or whether AI is used, emphasize that the human author is accountable for all content produced.

5. Specific Strategies for Instructors

a. https://fctl.ucf.edu/technology/artificial-intelligence/