AI Series Goals

1. **Provide an overview of AI**
2. **Highlight innovative use cases** from institutions and leading experts in the field.
3. ** Equip participants with resources** to leverage AI effectively in their respective roles.
4. **Foster collaboration** and knowledge-sharing between student success professionals (e.g., IR/IE/IP, student affairs, academic affairs).
Resource Repository

Check out for:
- RECORDINGS
- SLIDES
- RESOURCES

Today’s Objectives

Discuss implementation processes & challenges

Brainstorm how to apply best practices and innovative methods to institution/role

Identify next steps for AI application and integration
Speakers

Dr. Min Kyung Lee  
Assistant Professor, School of Information  
University of Texas, Austin

Dr. James Frazee  
Interim Vice President & Chief Information Officer, Information Technology Division  
San Diego State University

Mr. Ian Pytlarz  
Lead Data Scientist, Institutional Data Analytics + Assessment  
Purdue University
Before we begin...

Instructions

Go to

www.menti.com

Enter the code

7744 6696

Or use QR code
AI: Implementation Best Practices
CIMA-CSA WEBINAR

Stakeholder Participation in AI Design

Min Kyung Lee

The University of Texas at Austin
School of Information
Why Stakeholder Participation Matters in AI Design
Emerging AI applications serve one stakeholder’s needs and priorities disproportionately.
How a Feel-Good AI Story Went Wrong in Flint
A machine-learning model showed promising results, but city officials and their engineering contractor abandoned it.

ALEXIS C. MADRIGAL  JANUARY 3, 2019
Importance of procedural justice for AI

Perceived fairness of the decision-making process (Leventhel, 1980; Blader & Tyler, 2003)

Lee et al. (2019) Procedural justice in algorithmic fairness: Leveraging transparency and outcome control for fair algorithmic mediation. CSCW2019
Stakeholder participation across the AI design process

**Conceptualization**
What do we need AI for?

**Operationalization**
How can we design AI system properties to be in line with stakeholder priorities and values?

**Use**
How can we allow the right level of control for users?

**Governance**
How do we make sure that AI is working as intended?
Stakeholder participation across the AI design process

**Conceptualization**
What do we need AI for?

**Operationalization**
How can we design AI system properties to be in line with stakeholder priorities and values?

**Use**
How can we allow the right level of control for users?

**Governance**
How do we make sure that AI is working as intended?

Involve all stakeholders who will use or be affected by AI!

Students, professors, staff, administrators & management

If applicable, visitors, prospective students etc
Challenges in Stakeholder Involvement
Best Practices for Stakeholder Participation (1/2)

Equipping non-AI expert stakeholders with the right AI knowledge to co-design applications that reflect their needs and priorities

Fig. 2. An AI Probe: a half-baked AI idea consists of 1) design heuristic in the form of a textual diagram; and 2) abstracted NLP techniques in the form of an interactive Wizard-of-Oz simulation. This figure illustrates the first AI Probe (Detect checkable claims) presented to fact-checkers to help them learn the text classification technique.
Creating processes for stakeholders to agree and/or make trade-off decisions as AI cannot often satisfy all stakeholders’ priorities equally

This can be even more challenging as LLM is often unpredictable, and there is no consensus on evaluation methods and metrics.
Thank you

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http://hai.ischool.utexas.edu
https://minlee.net
AI Empowered Student Engagement and Success: Implementation Best Practices

Association of Public Land Grant Universities
CIMA/CSA Webinar

Dr. James P. Frazee
Interim Vice President & Chief Information Officer

June 21, 2024
Academic AI at San Diego State University

**AI Fellows Program**
- Recruited two faculty members and two students to serve as AI Fellows to develop AI resources.

**Student AI Survey**
- Conducted Fall 2023 student survey with 21% response rate from students across campus at SDSU.

**Shared Governance**
- Collaborations with colleagues from University Senate, Center for Teaching & Learning, and more.

**AAAI Micro-Credential**
- Created the AAAI Micro-Credential to prepare faculty to apply gAI across curriculum.

**2 Faculty & 2 Students**
- 7,800+ Student Respondents

**Prioritizing Faculty Training**
- Collaborations Across Campus
- Created the AAAI Micro-Credential to prepare faculty to apply gAI across curriculum.
2023–24 SDSU AI Fellows

Abir Mohamed
Africana Studies & Management Information Systems
Fowler College of Business

Colin Ro
Mechanical Engineering, Associated Students Rep. College of Engineering

Dr. David Goldberg
Management Information Systems
Fowler College of Business

Dr. Elisa (EJ) Sobo
Anthropology
College of Arts & Letters
Student AI Survey Results

21% SDSU Student Response Rate (n = 7,811)

71% Say AI will become an essential part of most professions

59% Report that they use AI in some capacity

19% Report instructors encourage use of AI in coursework
Evidence of an AI Digital Divide

More Devices =
More likely to say that AI has positively affected their education at SDSU

- “I am concerned about the fee increase”
- “It has the potential to give people an unfair advantage”
- “Is every student going to be able to afford the technology that is needed to keep up with AI?”
- AI required should be “in the public domain”
Academic Applications of AI (AAAI) Faculty **Micro-Credential**

Audit (2 hour) and Badge (4 hour) versions

- 5 ‘modules’ averaging 25-50 minutes each
  - Overview: How Does AI Work?
  - Ethics & Responsible Use
  - What Can AI Do?
  - Finding Apps
  - Prompt Engineering Activities

- Read-view-do format
- Activities required for badge (e.g., quizzes & prompt creation)
SDSU GenAI Dos and Don’ts

**DO**
- Remain informed on California State University (CSU) and SDSU Generative AI (GenAI) guidelines, and understand appropriate and responsible use of GenAI to augment existing work and increase productivity by improving efficiency and extending capacity.
- Learn how to responsibly and ethically use GenAI tools, including generating quality prompts to help ensure accurate results that are free of error and implicit bias, and continue to familiarize yourself with GenAI tools and their functions.
- Get professionally trained by completing SDSU’s Academic Applications of AI Micro-Credential course.
- Use GenAI tools with commercial data protection, such as Copilot, and read the terms of service, focusing on data collection and privacy practices.
- Ensure work done with GenAI is human-led, and be transparent about your use by openly citing your use of GenAI whenever possible.

**DON’T**
- Upload personal, proprietary, or confidential information that could violate CSU policies, state or federal privacy laws, including HIPAA (related to health and medical records), and FERPA (linked to student educational records), or expose SDSU data to levels 1 and 2 when using GenAI.
- Do not use or publish anything created with GenAI without reviewing for accuracy, SDSU editorial style, and brand voice.
- Do not use GenAI in confidential or sensitive meetings (California is a “two-party consent” state, meaning it is illegal to record a private conversation unless all parties consent to the recording, including digital recordings and transcripts, which specific GenAI tools can generate).
- Assume all SDSU community members are using or know how to use GenAI to improve efficiency and enable capacity.

**EFFECTIVE PRACTICES**
- Ensure accuracy and embrace the principle of “no human, no GenAI”.
- Acknowledge that distortions and biases are present in GenAI models and applications.
- Use GenAI to spark ideas.
- Use GenAI to review workflows for error reduction potential, and consider moving repetitive, predictable work to GenAI.

**WANT TO TALK ABOUT IT MORE?**
- ITS Help Desk is here to help, Monday-Friday, regular business hours:
  - IT Help Desk Center: 844-1178 (voice)
  - ITS Virtual Support Center (live online)
  - Information Technology Division via ServiceNow
Join the Equitable AI Alliance (EAIA)

Equitable AI Alliance

Colleges must adapt to fast-changing AI, ensuring fair access. The Equitable AI Alliance (EAIA) is dedicated to advancing affordable and accessible artificial intelligence (AI) in higher education.

tinyurl.com/aialliance
Thank You!

Q&A

aaai.sdsu.edu
Large Language Models at Purdue
Using LLMs in Higher Education
6/18/2024
Data Science at Purdue University
Industry Leading Data Science Team

Data Science Team

- Lead Data Scientist
  - Three Data Scientists
- Broad mandate
- Part of IDA+A
  - Analytics
  - Assessment
  - Engineering
  - Governance
  - Science

Data Science Infrastructure

Greenplum Database

- Gray box, secondary store of most data
- In-database compute used for all non-GPU intensive modelling

Zeus

- Used for cutting-edge experimentation (such as LLMs) and faculty research
- 4 40GB A100s, 1TB RAM, 48 CPU Cores
Data Science at Purdue University

Highly Varied Data Sources
Current Projects Using LLMs

Two Use Cases

Student Organization Recommendations

Student Writing Feedback Tool
Student Organization Recommender

Overview

- Embedding Similarity
  - Uses pre-trained permuted language model
  - all-mpnet-base-v2

- Tensorflow Recommender
  - Treats student’s academic characteristics as demographics and clubs as ‘products’
Student Organization Recommender

Data Preparation – Club Classification

- Manual process - ~1000 clubs
- Professional Development – Only type included in the Academic-Focused Recommender
- Demographic – Only type excluded in the Interest-Focused Recommender
  - Sub-optimal recommendations, working on improvements
Search & Examples
Letting Students Dig Deeper

- Dynamic Search
  - Students can use a search to look through our club data – powered by embeddings

<table>
<thead>
<tr>
<th>Search Term</th>
<th>Student Organization</th>
<th>Similarity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Astronomy and stargazing</td>
<td>purdue astronomy club</td>
<td>0.45</td>
</tr>
<tr>
<td>Astronomy and stargazing</td>
<td>student for the exploration and development of space (pin)</td>
<td>0.27</td>
</tr>
<tr>
<td>Astronomy and stargazing</td>
<td>space-loving individuals negotiating gravity</td>
<td>0.26</td>
</tr>
<tr>
<td>Astronomy and stargazing</td>
<td>society of physics students</td>
<td>0.25</td>
</tr>
<tr>
<td>Astronomy and stargazing</td>
<td>space &amp; earth analogs research chapter of purdue</td>
<td>0.25</td>
</tr>
<tr>
<td>Astronomy and stargazing</td>
<td>sky @ purdue</td>
<td>0.25</td>
</tr>
<tr>
<td>Astronomy and stargazing</td>
<td>photography club</td>
<td>0.24</td>
</tr>
<tr>
<td>Astronomy and stargazing</td>
<td>star wars club of purdue university</td>
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<tr>
<td>Astronomy and stargazing</td>
<td>purdue space program</td>
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<tr>
<td>Astronomy and stargazing</td>
<td>dataception</td>
<td>0.22</td>
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<table>
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<tr>
<th>Search Term</th>
<th>Student Organization</th>
<th>Similarity</th>
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<tbody>
<tr>
<td>Competitive chess</td>
<td>purdue university chess club</td>
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<tr>
<td>Competitive chess</td>
<td>boilermaker counter-strike club</td>
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</tr>
<tr>
<td>Competitive chess</td>
<td>competitive programmers union</td>
<td>0.29</td>
</tr>
<tr>
<td>Competitive chess</td>
<td>recwell intramural esports</td>
<td>0.29</td>
</tr>
<tr>
<td>Competitive chess</td>
<td>dancesport</td>
<td>0.28</td>
</tr>
<tr>
<td>Competitive chess</td>
<td>board games club at purdue</td>
<td>0.26</td>
</tr>
<tr>
<td>Competitive chess</td>
<td>cyber defense competition club</td>
<td>0.25</td>
</tr>
<tr>
<td>Competitive chess</td>
<td>battle association of purdue</td>
<td>0.25</td>
</tr>
<tr>
<td>Competitive chess</td>
<td>valorant at purdue</td>
<td>0.24</td>
</tr>
<tr>
<td>Competitive chess</td>
<td>the trading card games (tcg) club</td>
<td>0.24</td>
</tr>
</tbody>
</table>
Results
Huge Increase in Club Signups

- Tool Launched Q4 2023
- Signups vs Q4 2022 up 129%
- Lagging Demands in Q1/2 suggests large demand-shifting effect
  - Total net effect will not be known until late 2024
**Student Writing Feedback Tool**

**Overview**

- Real time feedback
  - Writing labs and TAs cannot read essays instantly and need to sleep!

- Pre-existing model – Charlie
  - Neural Network trained on graded essays from SCLA 101 (Sociology)
  - Predicted scores on rubric criteria (grammar, structure of argument, etc)
  - Limited written feedback, just scores

- New Efforts
  - Giving only written feedback
  - Utilizes GPT-4
  - No longer predicting scores, but predicting good prompts
Student Writing Feedback Tool

New Process

- Classification Models
  - Scores split into good/average/bad
  - Model predicts this for each rubric

- Dynamic Prompt Generation
  - “For [essay] when measuring [rubric], this student performed [model_result]. Give feedback to help this student improve”
Student Writing Feedback Tool

Charlie Assignment

1: Clearly introduces the topic and its importance.
Areas for Improvement
The introduction briefly mentions the topic but lacks a clear statement of its importance. The opening sentence is somewhat vague and does not effectively set up the argument or explain why the reader should care about the status of women in Athens.
Suggestions
Consider revising your introduction to include a more explicit thesis statement that clearly outlines the essay's main argument and its significance. For example, you might explicitly state how examining the status of women in Athens can shed light on broader issues of gender inequality or societal values in ancient civilizations. Additionally, try to engage your reader by posing a thought-provoking question or presenting an intriguing fact about Athenian society that directly relates to your topic.

2: Introduction provides appropriate background and draws the reader into the argument.
Areas for Improvement
While you provide some background information on Athens and Sparta, there is a lack of detailed context that would help draw the reader into your argument more effectively. The references to Thucydides and Nicias are relevant but introduced abruptly without sufficient explanation of their relevance or historical context.
Suggestions
To improve this aspect, consider expanding your background section by offering more detailed information about Athenian society, particularly its views on gender roles and marriage. This could involve providing brief summaries of key historical events or cultural practices mentioned (e.g., Peloponnesian War) before diving into specific examples like quotes from Thucydides and Nicias. This approach will not only make your essay more engaging but also help
QUESTIONS?
Breakout Activity
Instructions

Select the appropriate breakout room slide.

In your groups, you will:

• Be presented with AI implementation challenges at a made-up university
• Brainstorm with your group how to address those challenges

Elect someone to share your responses. You’ll have 8 minutes
Breakout Rooms

- Room 1
- Room 2
- Room 3
<table>
<thead>
<tr>
<th>Scenario</th>
<th>Brainstorm...</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSU has implemented an AI-driven student engagement platform that sends personalized notifications to students about events, deadlines, and support resources. However, they face challenges such as:</td>
<td>How to increase student engagement with the AI platform, improve faculty and staff adoption, and manage costs effectively?</td>
</tr>
<tr>
<td>• Low student response rates to AI-generated messages.</td>
<td></td>
</tr>
<tr>
<td>• Faculty and staff resistance to adopting AI tools.</td>
<td></td>
</tr>
<tr>
<td>• High costs associated with maintaining and updating the AI platform.</td>
<td></td>
</tr>
<tr>
<td>Scenario</td>
<td>Brainstorm...</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| *BRU has integrated AI to streamline administrative processes like course scheduling, financial aid distribution, and academic advising. They encounter challenges such as:*  
  - Data privacy concerns from students and staff.  
  - Integration issues with existing legacy systems.  
  - Inadequate infrastructure to support AI applications. | How to address data privacy concerns, improve system integration, and enhance infrastructure support for AI applications? |
### Scenario

**PHU uses AI to identify and support at-risk students by analyzing academic performance, attendance, and engagement data. They struggle with challenges such as:**

- Ensuring accuracy and fairness in AI predictions.
- Limited staff training on interpreting and acting on AI data.
- Resistance from students who feel stigmatized by being labeled as at-risk.

### Brainstorm...

How to improve the accuracy and fairness of AI predictions, enhance staff training, and address student concerns about stigmatization?
Group Share
Before we end...

Instructions

Go to
www.menti.com

Enter the code

7744 6696

Or use QR code
Thank you!