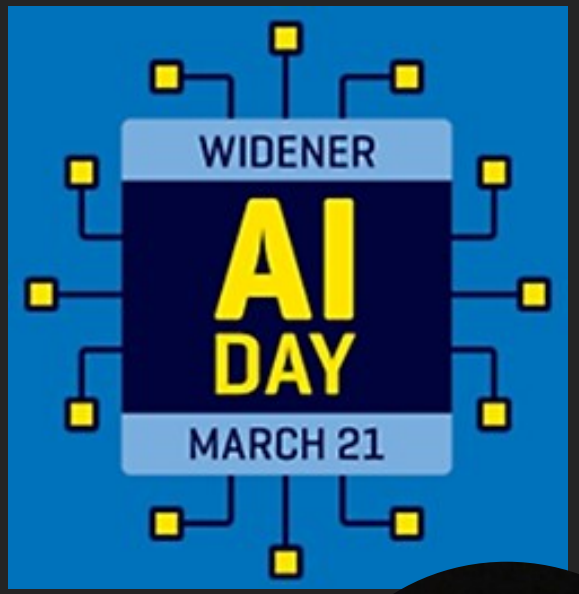
2025 AI Day Competition

21 March 2025

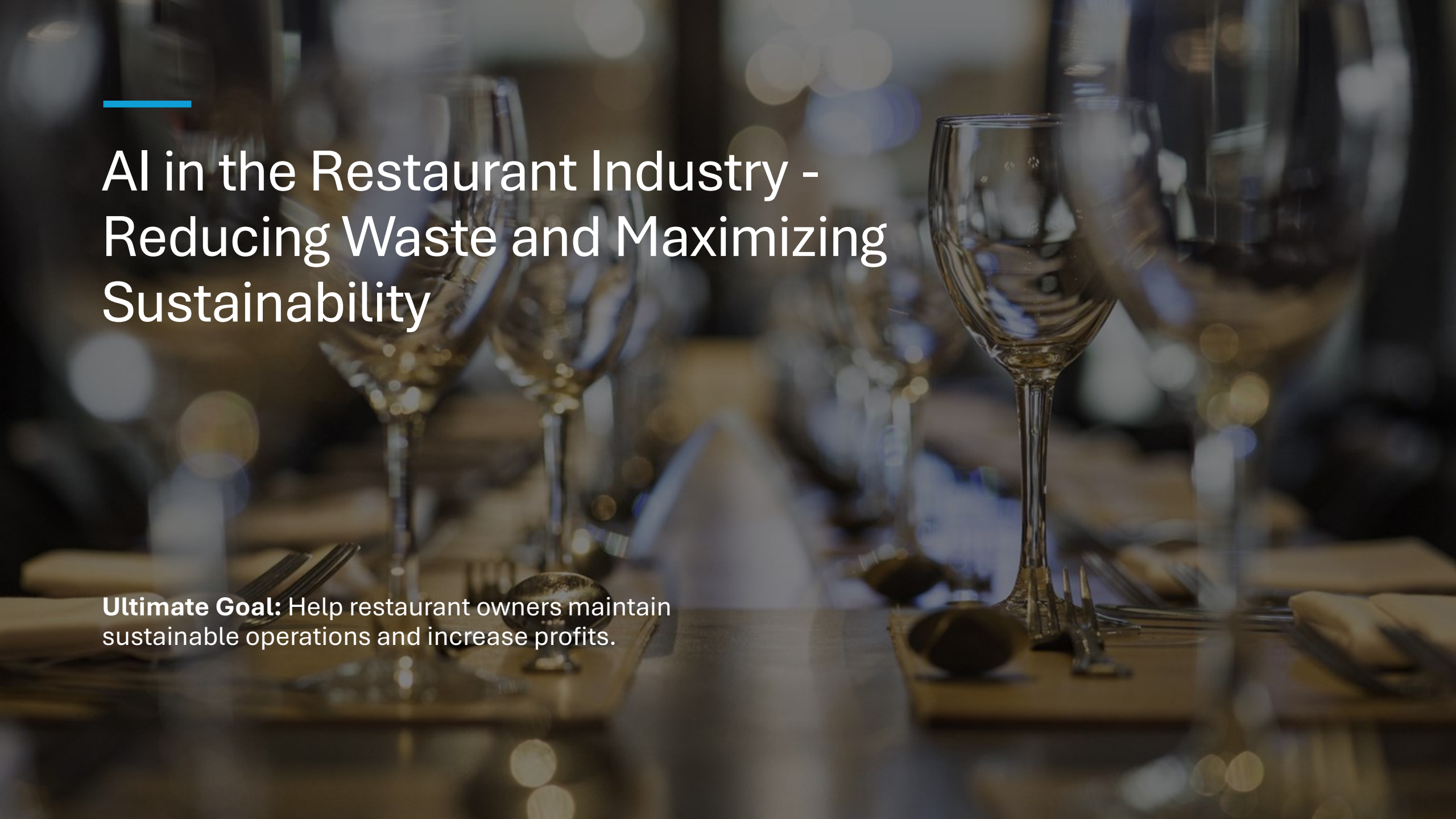


Miroslava Vazquez

AI in the Restaurant Industry - Reducing Waste and Maximizing Sustainability



WIDENER AI DAY MARCH 21



AI in the Restaurant Industry - Reducing Waste and Maximizing Sustainability

Ultimate Goal: Help restaurant owners maintain sustainable operations and increase profits.

1. Reduce Food Waste:

Inventory Optimization: Utilizes sales data to accurately forecast ingredient demand, minimizing over-ordering and reducing spoilage.

Dynamic Menu Adjustments: Updates menu based on available ingredients, ensuring operational flexibility and minimizing waste.

AI-waste reduction system: Identifies commonly wasted ingredients and recommends portion adjustments or alternative menu strategies to minimize waste.

Smart Expiry Tracking: Recommends specials based on stock about to expire.

Ingredient Repurposing: Promotes the full use of ingredients, such as repurposing all parts of fresh produce which are the most wasted ingredients in the restaurant industry.



AI-Driven Efficiency and Customer Hyper-Personalization

2. Optimize Investments & Cost Efficiency:

- Demand Forecasting: Predict peak times and trends.
- Smart Pricing Strategies: Adjust prices based on seasonality and demand.
- Ordering Optimization: AI finds best supplier deals and suggests high-margin menu items.

3. Increase Service Efficiency:

- Hyper-Personalization: AI recommends dishes based on past orders, preferences, and mood.
- Allergen & Nutritional Analysis: Helps customers make informed choices.
- AI-Assisted Stations: Stations light up based on orders to guide staff.



Kristen Martinez

Analyzing Short Response Data with AI by Kristen Martinez



WIDENER AI DAY MARCH 21

Analyzing Short Response Data with AI by Kristen Martinez

Problem Statement: Can AI be used to analyze short response data to help analyze survey result and/or study results faster.

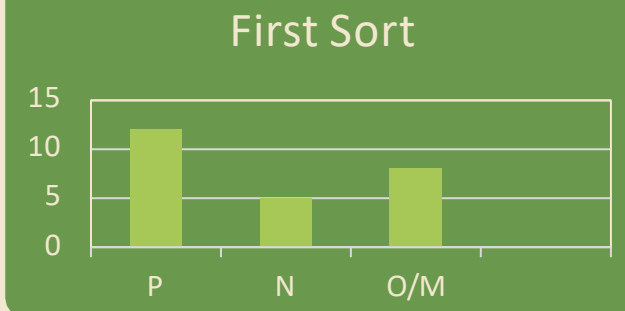
Project Goal: Evaluate the effectiveness and accuracy of using readily available AI to analyzing short ended question response.

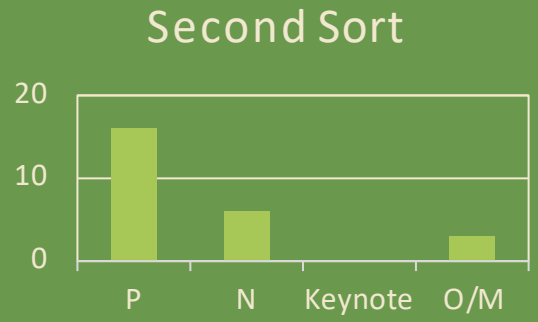
Method

- Create example data for AI to sort
  - 25 responses to a questions about overall thoughts on a fake leadership conference.
- Create questions for the AI
  - 1 asking it to sort the data into three groups, positive, negative, and other/mixed.
  - 3 questions, each worded differently, asking for the responses' least favorite part of the conference.
  - 3 questions , each worded differently, asking for the responses' favorite part of the conference.
  - 1 asking the AI to sort the data into four group while ignoring on factor, responders' options on the keynote speaker. Positive, negative, a group that only mentioned the keynote speaker, and mixed/other.
- Uploading the data and questions to ChatGPT
  - grey screenshot
  - color-coded screenshot (only question one)
  - text file

Data

If the AI correctly interrupts the data, the results should be similar to the following. There can be slight variations because certain words, such as "okay", can be interrupted in different ways.





Response 1	I had a good experience.
Response 2	I am looking forward to it again next year.
Response 3	I thought I would not like the conference, but I did ultimately find it very beneficial.
Response 4	My only complaint is that I have to wait a whole year to come back!
Response 5	I liked the keynote speaker, I did not like the workshops.
Response 6	Getting a hotel nearby was a disaster.
Response 7	I liked the group sessions, I did not like the keynote speaker.
Response 8	I had a great experience, I feel like I got a bunch of great advice from the keynote speaker and the workshops
Response 9	Loved the breakout sessions!
Response 10	The workshops were okay, the breakout groups were not great because people were not talking, and I liked the keynote speaker.
Response 11	I learned nothing from this experience.
Response 12	The keynote speech ran a little long but I really enjoyed the group sessions and the workshops
Response 13	I learned a ton of new info, especially from the workshops.
Response 14	I got a load of great advice from the group breakout sessions.
Response 15	I felt I learned a lot.
Response 16	The keynote speaker talked about nothing for too long. The break-out sessions were not helpful because they were not organized well.
Response 17	N/A
Response 18	I learned a lot from the conference, but the events were not organized very well
Response 19	I already knew everything the conference covered.
Response 20	The food was terrible. I learned a lot from the conference.
Response 21	The experience was not very beneficial.
Response 22	I was not a huge fan of the keynote speaker but they were not terrible. Overall I loved the conference
Response 23	The group breakout sessions really stood out!
Response 24	I enjoyed the workshops.
Response 25	I would recommend this workshop to my coworkers.

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Response 25 I would recommend this workshop to my coworkers.

Least Favorite Aspect:
- Keynote Speak
- 4 negative comments

Most Favorite Aspect:
- Workshops & Breakout Session
- 5 positive comments each

Grey Screenshot

- First Sort: 14 Positive, 6 Negative, 5 Mixed/Other
- Least Favorite Aspect:
  - Keynote speaker 3 times
  - Breakout Sessions & Workshops 2 times
- Most Favorite Aspect:
  - Breakout Session & Workshop 3 times
- Final Sort:
  - 14 Positive, 6 Negative, 4 Keynote Only, and 2 Other/Mixed

Positives:

- Listed the response number & responses when sorting.
- When stating most/least favorite aspect reference specific responses.

Negatives:

- List more then just one factor the least favorite question.
- View certain mixed response, such as response 20, as solely negative.

Text File

- First Sort: 11 Positive, 5 Negative, 9 Mixed/Other
- Least Favorite Aspect:
  - Keynote speakers 3 times
  - Breakout Sessions & Workshops 2 times
  - Other 1 time
- Most Favorite Aspect:
  - Breakout Session & Workshop 3 times
- Final Sort:
  - 11 Positive, 5 Negative, 3 Keynote Only, and 7 Other/Mixed

Negatives:

- Did not reference specific responses in every reply to the most/least favorite questions.
- Read the file in as 26, not 25 responses.

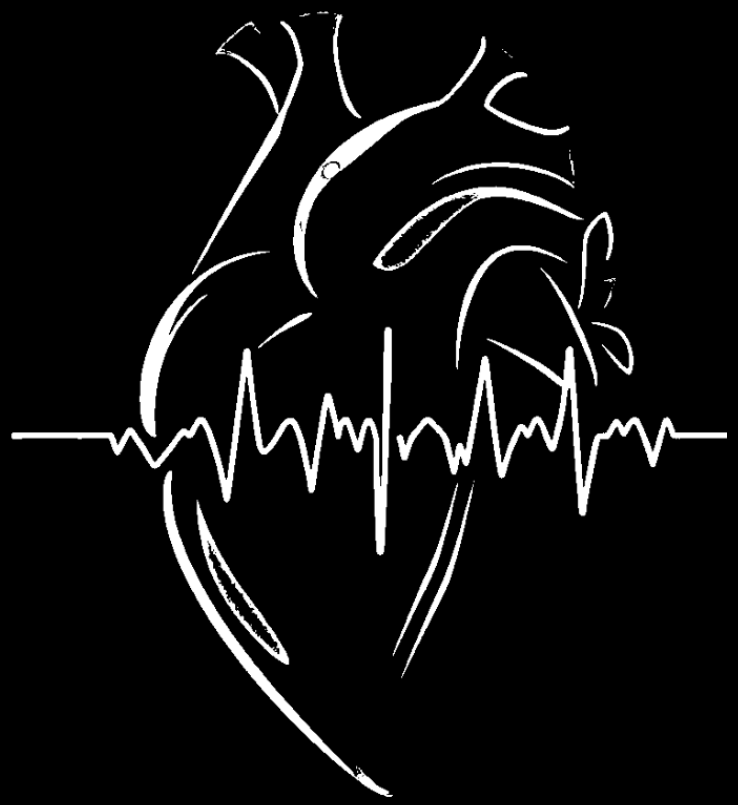
Color-Coded Screenshot

- 14 Positive, 5 Negative, 6 Mixed/Other
- Dispute the prompt not mentioning what the colors meant the AI created the groups based on the colors.
- It marked green as positive, red as negative, and yellow as mixed/other

Conclusion

In its current state, ChatGPT can be used to sort open-ended survey responses with some limitations. Because of small discrepancies in the AI's replies, ChatGPT should not be used in formal research. When AI is used for data analysis the data must be clearly organized regardless of how it is uploaded. The data should show no bias for grouping in its presentation (bold, color, etc.). Additionally, if attempting to make specific/niche groupings the questions must be worded very clearly. If using ChatGPT for this purpose rewording the same question multiple times and comparing the response would likely provide the most accurate analysis.

Elizabeth Martin



EKG Analysis: Utilizing AI for Smarter Heart Rhythm Interpretation



WIDENER AI DAY MARCH 21

EKG Analysis: Utilizing AI for Smarter Heart Rhythm Interpretation

1 Enhanced Interpretation

AI transforms EKG interpretation with enhanced accuracy, efficiency, and real-time analysis.

2 Workflow Improvement

This technology streamlines workflows, reduces errors, and enhances patient care in cardiology.



AI-Driven EKG Interpretation

Data Acquisition & Preprocessing

- High-quality EKG data is collected from patient monitoring systems (Telemetry Packs).
- Noise filtering, signal normalization, and feature extraction are crucial preprocessing steps.

AI Model Training

- Machine learning models, such as CNNs and RNNs, learn to recognize normal and abnormal heart rhythms from labeled datasets.
- This training enhances the model's diagnostic capabilities.

Prompt Development

- Structured prompts guide AI models to generate clear, concise, and clinically relevant EKG interpretations.
- Effective prompts include detailed instructions and data input for accurate analysis.

Clinical Validation

- AI-generated analyses undergo healthcare professional review and cross-referencing with manual interpretations.
- This ensures accuracy, reduces errors, and validates clinical outcomes.

Daniel Kmet

ToDoList.ai



WIDENER AI DAY MARCH 21

ToDoList.ai

Submitted by: Daniel Kmet

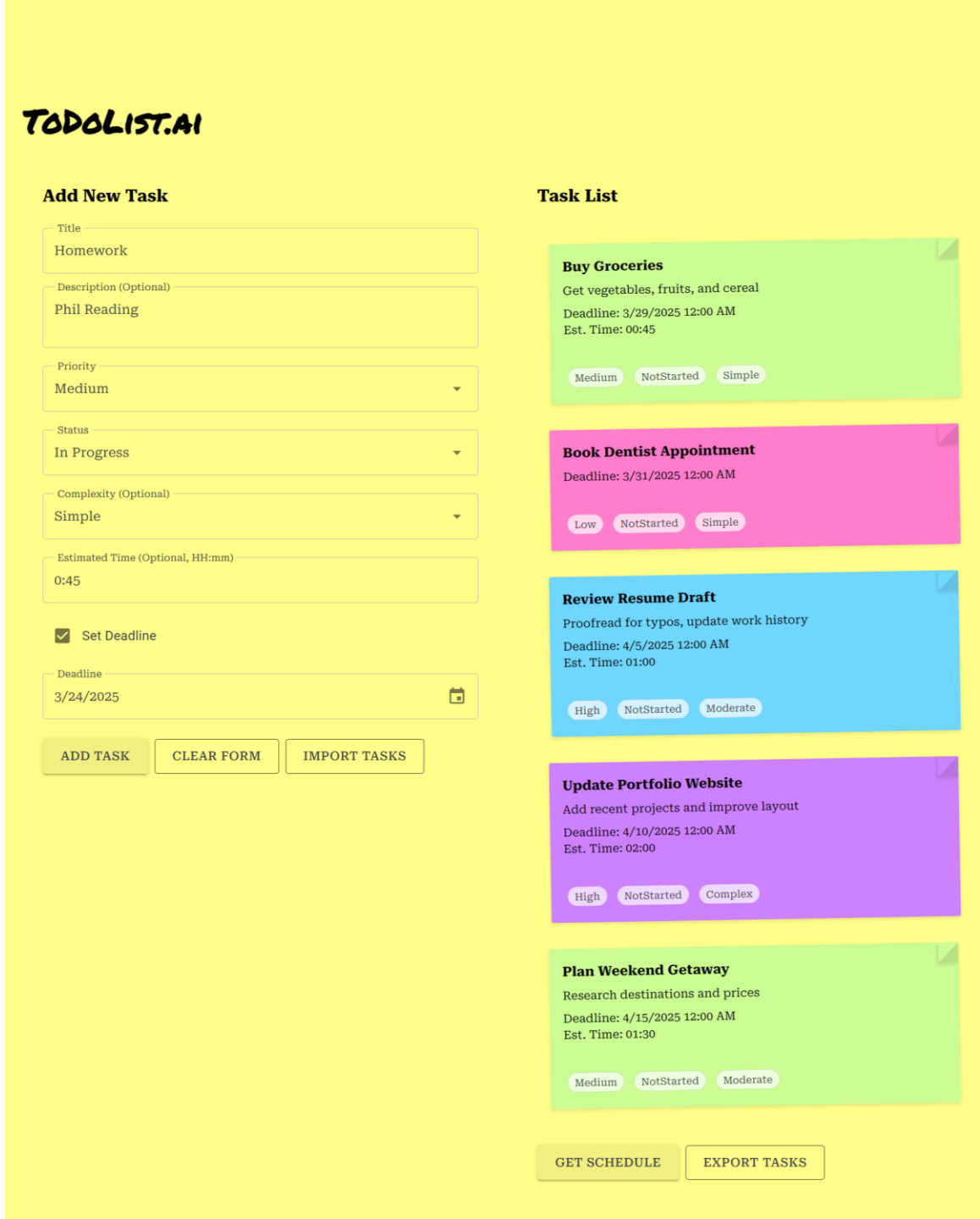
(Senior Computer Science & V.P. Widener Computer Club)

AI-Powered Scheduling Web App

Automatically generate and prioritize to-do lists based on user tasks, deadlines, importance, urgency, and complexity

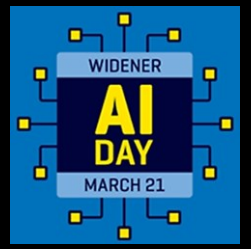
- Simple intuitive Blazor + MudBlazor Front End
- Google's Gemini 2.0 Flash API with custom trained AI model from Google's AI Studio
- Built using C#, JavaScript, HTML, and CSS

Demo: github.com/Daniel-Kmet/ToDoList.ai



Ryan McLaughlin

Study Buddy AI - The Future of Education





STUDY BUDDY AI THE FUTURE OF EDUCATION

Sophomore of Electrical Engineering

Ryan McLaughlin

STUDY BUDDY AI – REVOLUTIONIZING LEARNING

- **The Problem:** AI is making it easier for students to find instant answers, reducing critical problem-solving skills.
- **The Challenge:** As AI advances, this issue threatens long-term success and societal progress.
- **The Solution:** Study Buddy AI transforms AI's role in education by fostering both academic success and essential problem-solving abilities.
- **How It Works:**
  - AI assesses individual student needs.
  - Custom-made courses are generated.
  - Adaptive learning ensures engagement with the right difficulty level.
- **The Goal:** Enhance learning, improve grades, and develop future problem solvers.



Learn more
Read the full report here
(Link to one drive file)

Enhancing Student Engagement and Reducing Anxiety through AI-Driven Bi-Weekly Reminders

Maria Pinho



WIDENER AI DAY MARCH 21

Enhancing Student Engagement and Reducing Anxiety through AI-Driven Bi-Weekly Reminders



STUDENT SUCCESS

Maintaining student engagement and reducing anxiety is paramount for academic success

📢 **Announcement: Upcoming Deadlines & Congratulations!** 🎉

Hello everyone,

I hope you're all doing well! 🌟 Just a quick reminder of the important deadlines coming up next week:

- **Feb. 3:** Quiz Chapter 2 📚
- **Feb. 4:** Noodle Nugget C. 3 🍜
- **Feb. 7:** Chapter 3 – Mini-case Publix 🏪
- **Feb. 10:** Quiz Chapter 3 📝

Make sure to mark these dates in your calendar and stay on top of your work! 🗓️

Also, a huge congratulations to our Men's Volleyball team for their fantastic win! 🏐🎉 Let's keep up the great work both in and out of the classroom.

Best of luck with your studies, and have a wonderful week ahead!

Feel free to tweak it as needed! 😊

AI-GENERATED ANNOUNCEMENTS

At the end of each class, I have a 'What's Next' slide to remind students what they have in terms of what we have accomplished that week, a reminder of critical dates for assignments, group work, etc. These slides were translated into announcements. Using the AI-Generated to review, include fun icons, makes it more engaging creating a closed loop, a supportive relationship beyond the classroom.

Mesoma Ezeiruaku

AI-Powered Personalized Study Assistant for Canvas



WIDENER AI DAY MARCH 21

By Mesoma Ezeiruaku

AI-Powered Personalized Study Assistant for Canva



Key Features

Personalized Study Schedule

- AI generates a customized study plan based on the syllabus, assignment deadlines, and exams.

Smart Content Recommendations

- AI recommends additional learning resources (videos, articles, exercises) based on student progress and learning style.

AI-Powered Summary and Note Generation

- Automatically summarizes lecture slides and notes, highlighting key concepts and generating flashcards for review.

Continuous Feedback & Adjustment

- AI monitors progress and adjusts the study plan and content recommendations as needed.

Objective

To enhance the student study experience by integrating AI-driven features directly into Canvas. The goal is to help students manage large volumes of course material more efficiently and improve learning outcomes.t

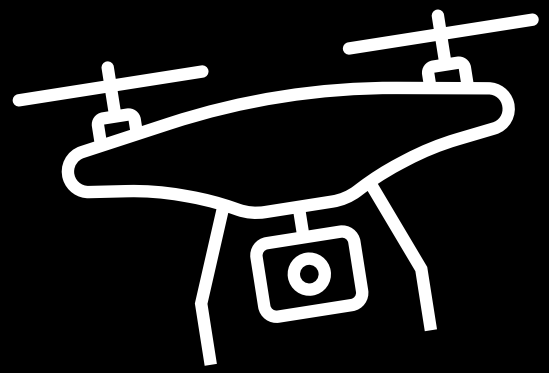
next →

PROJECT IMPACT & THE NEXT STEPS

- Reduces educational overload by organizing and summarizing large amounts of study material.
- Personalizes learning to cater to individual needs, improving retention and productivity.
- Saves time by automatically suggesting relevant resources and adjusting studyplans.
- Email Canvas with the idea for potential integration into the platform.
- Connect with the Computer Science Club advisor to develop the project further with their expertise.
- Explore opportunities to collaborate and move the project into the execution phase.

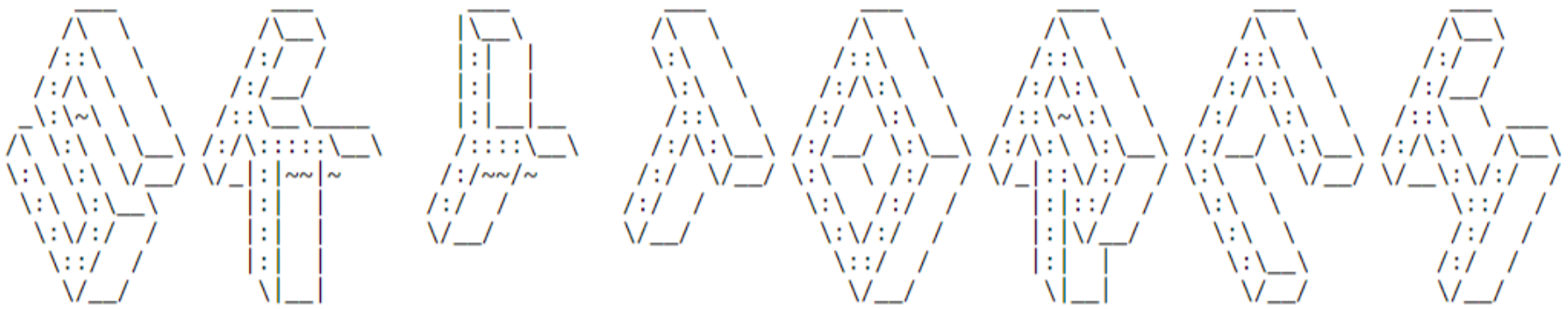
Ivan Gonzalez Jr.

AI Drone Navigation



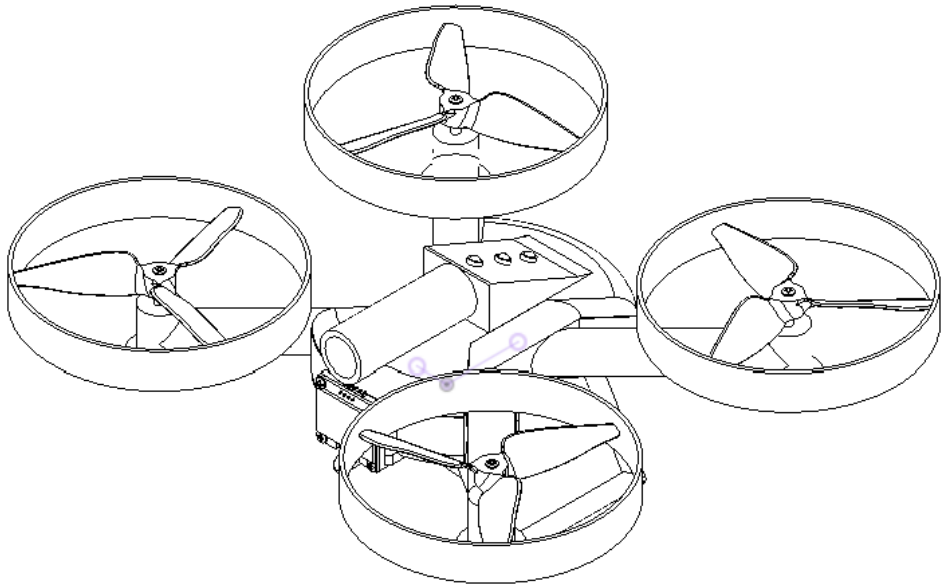


WIDENER AI DAY MARCH 21



AI Drone Navigation

Ivan Gonzalez: Robotics Engineering



Bridging AI and Robotics for Autonomous Flight.

SKYTORCH: AI-Driven Drone Navigation

•**Virtual Simulation:** Using ML-Agents, the drone trains in a Unity-based city environment.

•**AI Training Process:** Reinforcement learning guides the drone to navigate waypoints autonomously.

•**ML-Agents & PyTorch:** Python-based training bridges AI with Unity for real-time learning.

•**Challenges & Bugs:** The drone often **bounced uncontrollably** due to unstable reinforcement learning.

•**Version mismatches** between Python, Unity, and ML-Agents led to crashes and failed training.

•The **waypoint** is often teleported instead of saying fixed, confusing the drone's navigation.

•**Communication** delays between ML-Agents and Unity made debugging difficult. 4

•**Future Goal:** Achieve **stable AI-controlled flight** and transition the trained AI into **real-world drones** for autonomous navigation.



Image 1: Command Prompt using Miniconda3



Image 2: AI Drone flying to waypoint



Image 3: AI Drone Camera POV

Aletor Onosezele

AI Music – The Future of Creativity?



WIDENER AI DAY MARCH 21

AI'S INFLUENCE ON THE MUSIC SPHERE

AI-generated music is revolutionizing the landscape of composition and production. Tools like AIVA, MuseNet, and Magenta are empowering musicians to create innovative and unique sounds with ease. By leveraging AI, even non-musicians can now venture into the world of music creation, democratizing access to musical expression.

However, this innovation is not without its challenges. Ethical concerns and copyright issues remain significant hurdles in the evolving field of AI-generated music, raising questions about authorship and intellectual property.

Looking ahead, the future of music composition will likely be a hybrid approach, where human creativity merges seamlessly with AI assistance, opening new possibilities and redefining the boundaries of musical artistry.

ONOSEZELE KELLY ALETOR

AI MUSIC – THE FUTURE OF CREATIVITY?

AI IS SHAPING NEW MUSIC TRENDS AND GENRES, OFFERING A FRESH PERSPECTIVE ON COMPOSITION. PRODUCERS ARE INCREASINGLY USING AI TO ENHANCE SOUND DESIGN, AUTOMATE PRODUCTION TASKS, AND EXPLORE INNOVATIVE SONIC LANDSCAPES. THIS SHIFT IS REVOLUTIONIZING HOW MUSIC IS CREATED AND PRODUCED, OFFERING NEW TOOLS FOR ARTISTS TO PUSH CREATIVE BOUNDARIES. IN PARALLEL, THE LEGAL INDUSTRY IS WORKING TO ADDRESS AI MUSIC OWNERSHIP, NAVIGATING COMPLEX QUESTIONS AROUND AUTHORSHIP AND INTELLECTUAL PROPERTY. AS AI CONTINUES TO EVOLVE, ITS ROLE WILL REMAIN COMPLEMENTARY TO HUMAN MUSICIANS, ASSISTING IN THE CREATIVE PROCESS RATHER THAN REPLACING THEM, AND OPENING UP NEW POSSIBILITIES FOR COLLABORATION BETWEEN TECHNOLOGY AND ARTISTRY.

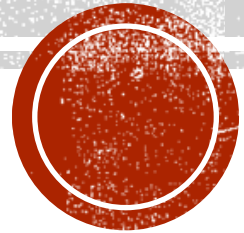
Terence Xu

The Role of AI in Creating Marketing and Partnership Strategies for A Local Grief-Support Foundation for Youth and Families



WIDENER AI DAY MARCH 21

THE ROLE OF AI IN CREATING MARKETING AND PARTNERSHIP STRATEGIES FOR A LOCAL GRIEF-SUPPORT FOUNDATION FOR YOUTH AND FAMILIES



Presenter: Terence Xu

Brainstorming Stage

– general prompts

- “what are important factors/elements to consider for a local non-profit organization when they are trying to marketing/advertising their programs?”
- "what might be some challenges faced by a non-profit organization that serves lower-to-middle class community?”
- "what are some good ways to market a no-cost youth camping program?"

Strategy Planning Stage

- more specific questions

- "what might be a list of potential partnership with this foundation?”
- "what are some marketing materials (e.g., social media posts, flyers, email lists) that could be helpful and how should those materials be phrased/designed to get the maximum impact?"

Implementation Stage

- In this stage, AI will be utilized to design the marketing materials and even manage the social account of the foundation to get the best marketing result.
- AI will also be used to analyze the need of the potential partnerships and design specific partnership plans targeting each place.



Ryan Mattimoe

SEA COW RANCH AND

RETREAT



WIDENER AI DAY MARCH 21

SEA COW RANCH AND RETREAT

Created by: Ryan Mattimoe with the aid of ChatGPT





This is an evolution meme.

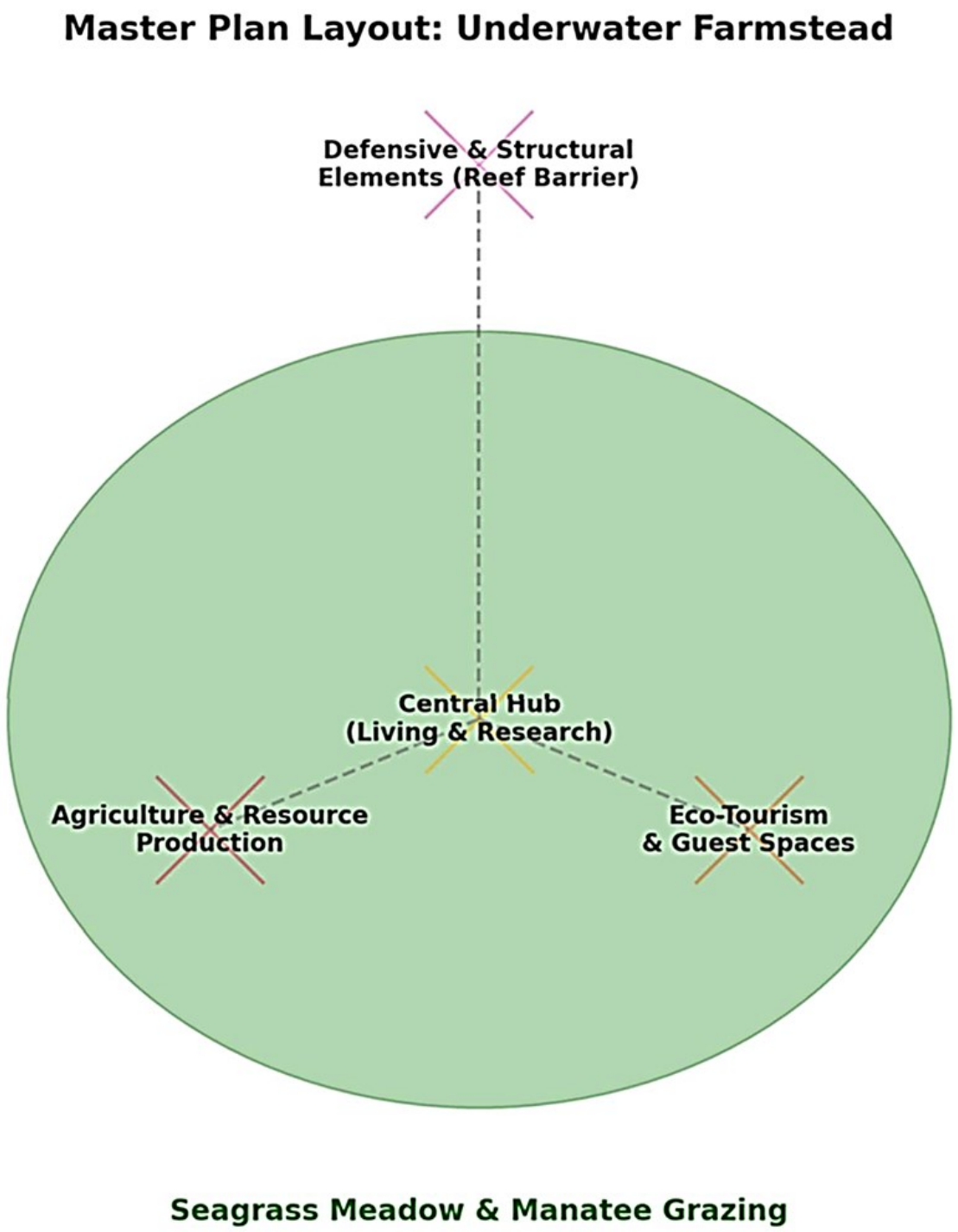






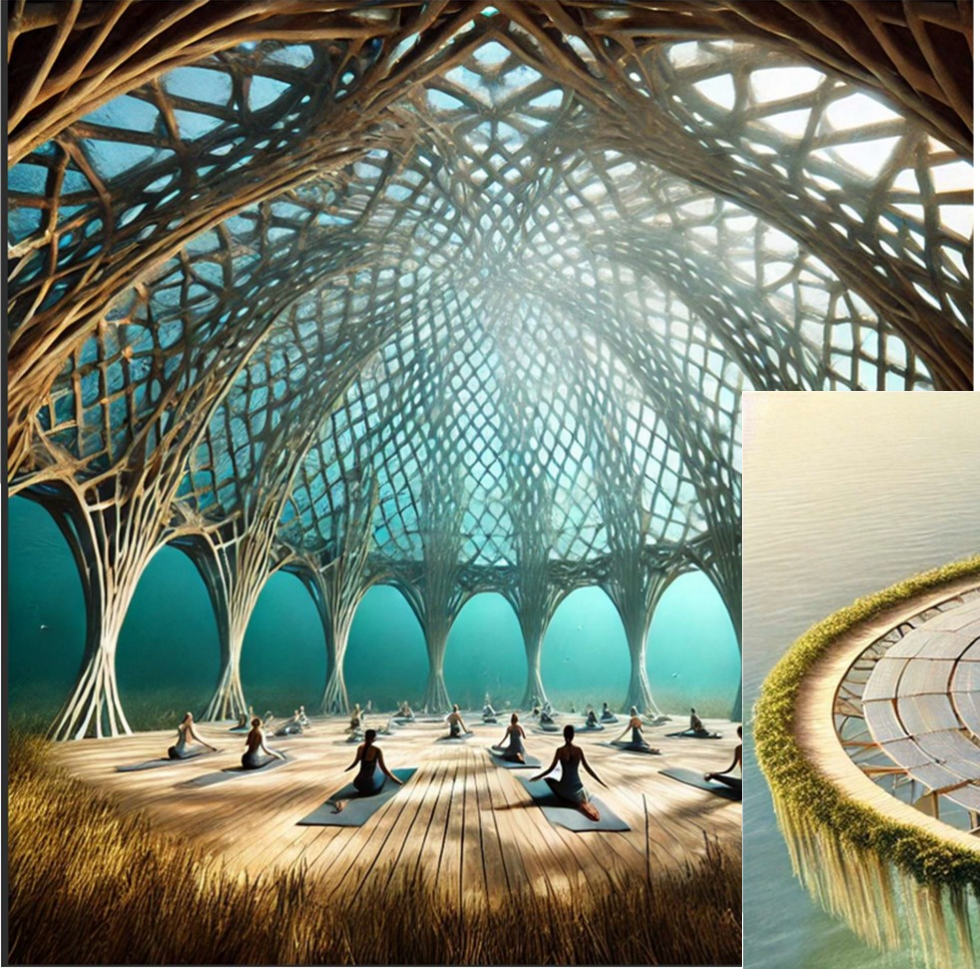

MASTERPLAN

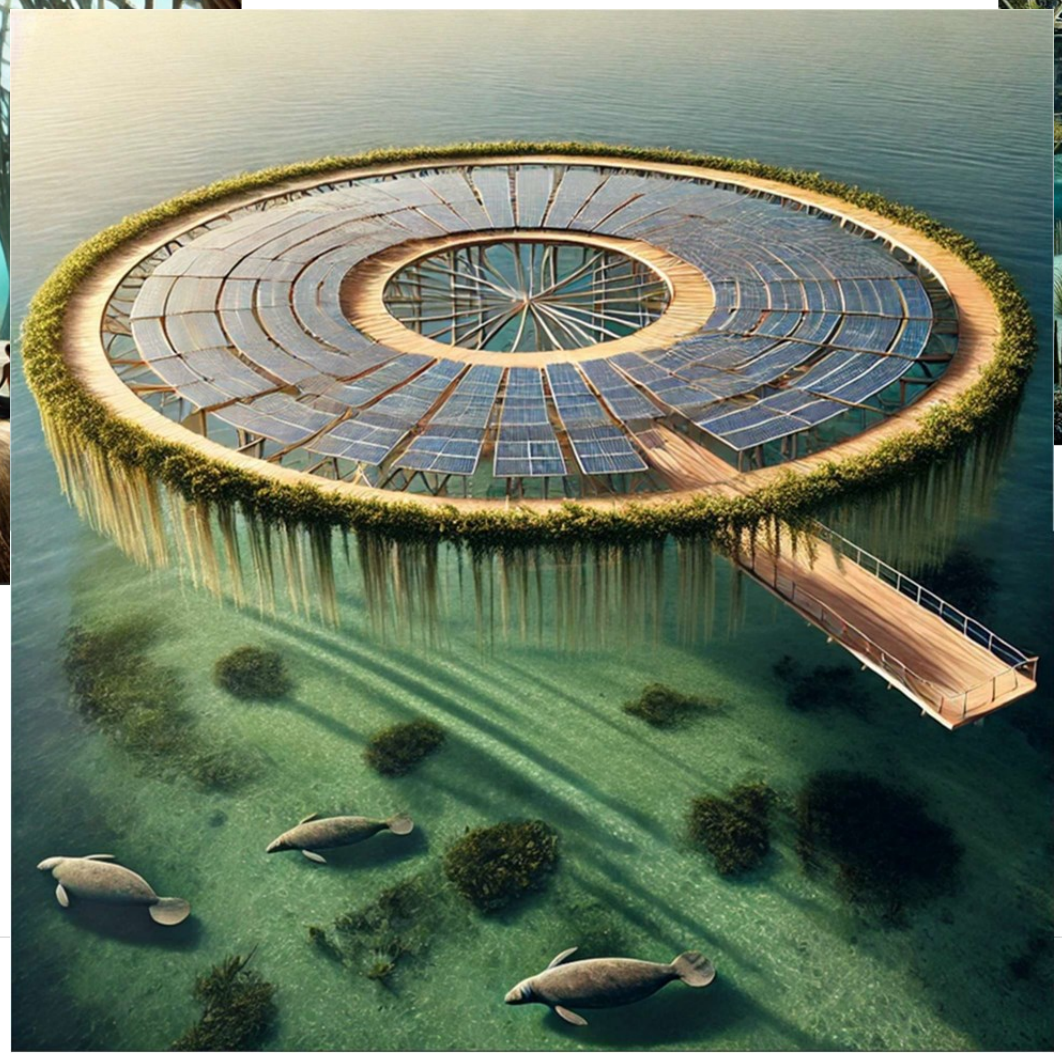


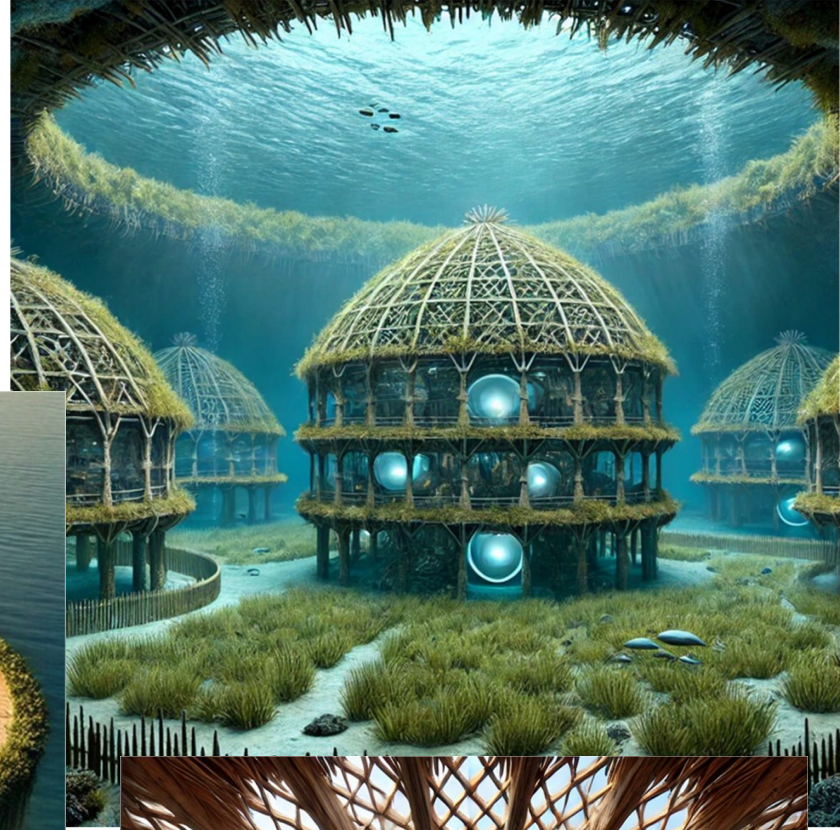

Master Plan Layout: Underwater Farmstead
Defensive & Structural Elements (Reef Barrier)
Central Hub (Living & Research)
Agriculture & Resource Production
Eco-Tourism & Guest Spaces
Seagrass Meadow & Manatee Grazing

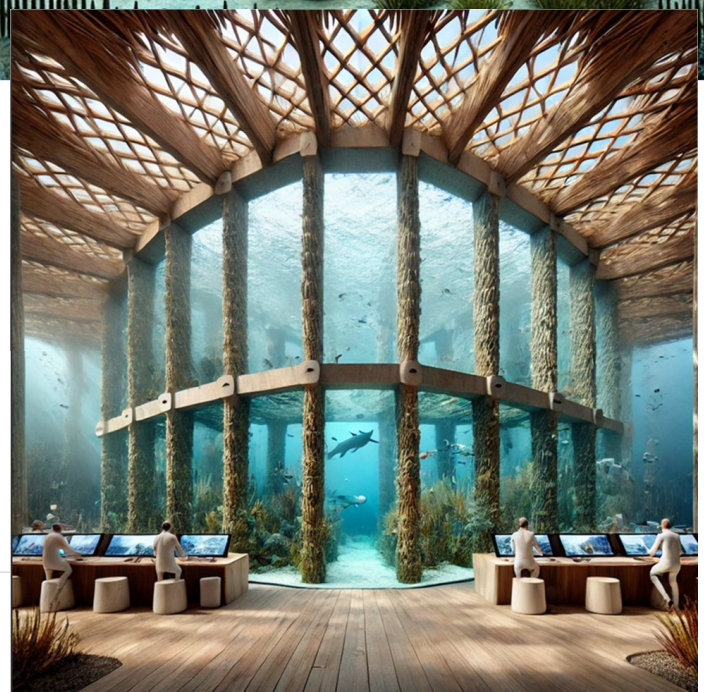


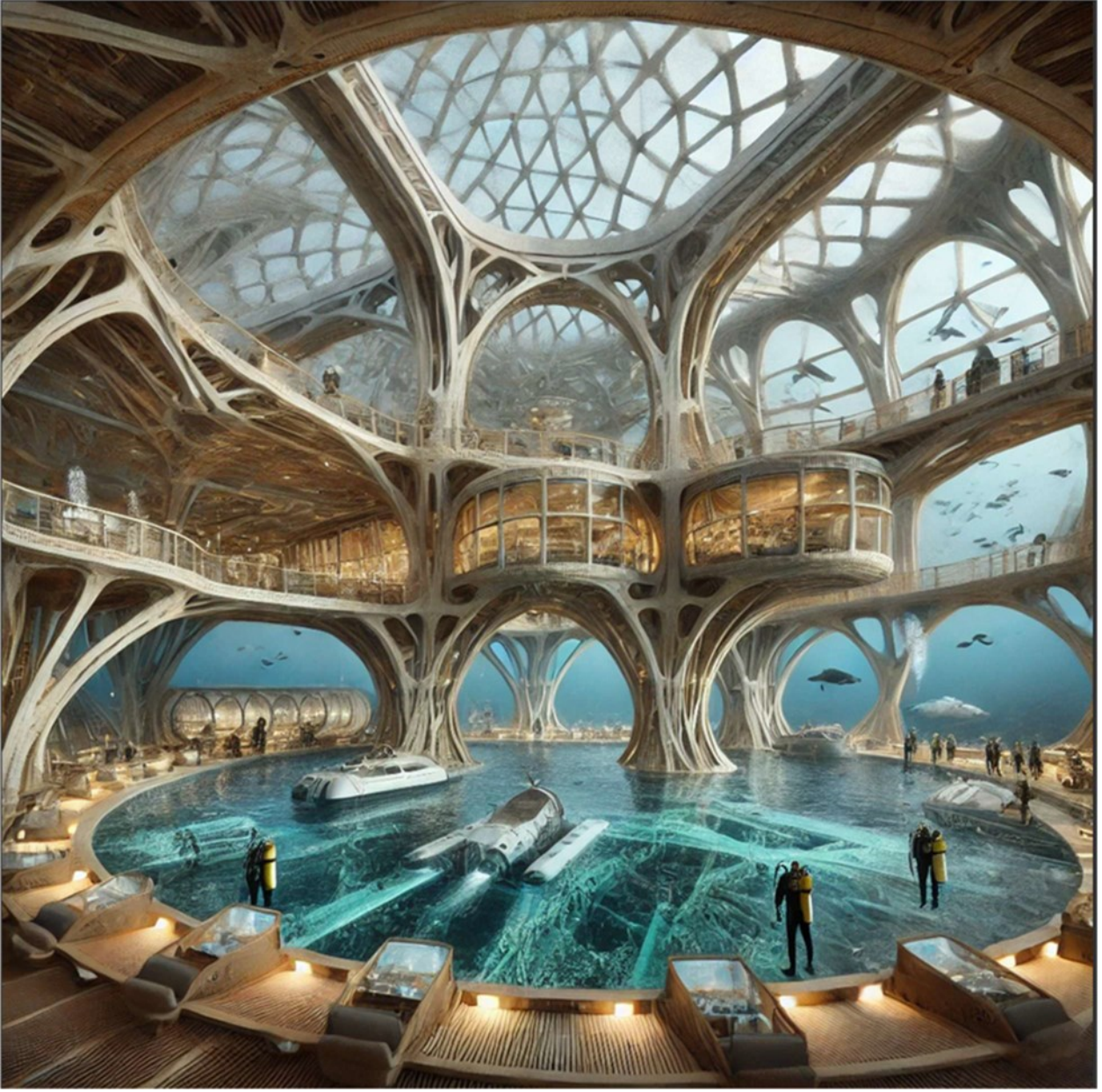
















Ben Gerardo Coronado

A & G Business Plan Writer



WIDENER AI DAY MARCH 21

A & G Business Plan Writer

A&G Business Plan Writer is a virtual assistant designed to help Latino entrepreneurs in the United States create business plans. This AI model is accessible to users with a high school education and no prior business experience.

A&G
BUSINESS PLAN WRITER

Stacey Rose

IT STARTS WITH I’M SORRY!



WIDENER AI DAY MARCH 21

IT STARTS WITH I'M SORRY.

Stacey Rose, PhD student, Human Sexuality

I'm sorry

Hey, I had sex with someone but it didn't feel okay...

It is not your fault.

Avoid judgment

Sometimes, it helps to reflect on what exactly felt off

...sex can be uncomfortable or even painful for various reasons

If your friend has confided in you, they may be feeling vulnerable and scared

...talking to a trusted friend or a professional might help

Do not share their experience without their explicit consent

This is an incredibly delicate situation

Was it... something else?

Freezing or "zoning out" is a common physiological response to trauma

Be gentle with yourself

offer to go with her to appointments

You could say something like, "

I'm here for you

validate

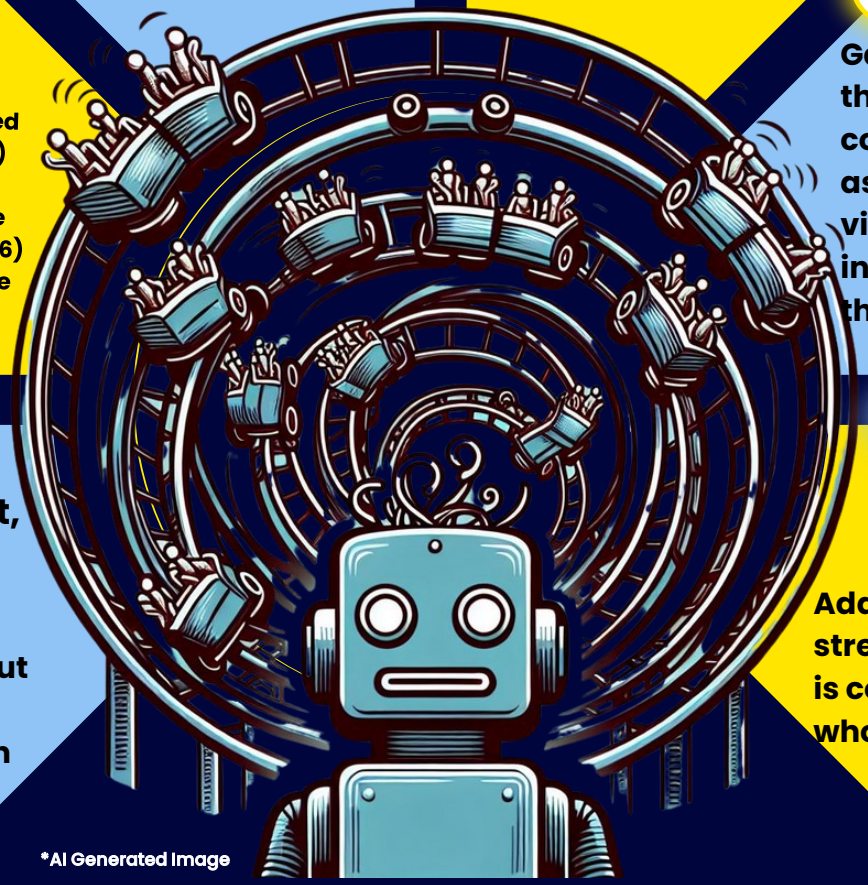
...AND ENDS WITH AI MODELS LEARNING TO BETTER SUPPORT SURVIVORS

5 Provided talking points to friend who received SV disclosure (Prompt 2), but none did for person who experienced SV (Prompt 1) & wanted to tell someone about it.

4 Provided resources, including seeking campus resources, for Prompt 1.
*Copilot did not.
All did for Prompt 2!

7 Themes found: 1) validated feelings, 2) provided resources, 3) affirmed the SV experience, 4) provided specific talking points, 5) role of trauma response, 6) self-care, 7) response could be perceived as victim-blaming.

3 Gave responses that could be perceived as victim-blaming, including censoring the prompt.



*AI Generated Image

5 AI Models: ChatGPT, Copilot, Gemini, Claude, DeepSeek

2 prompts input related to victimization (SV) from research

1 Addressed the freeze stress response, which is common in people who experienced SV.

Going Forward...

- More inclusive & varied prompts
- Have people of different identities who have experienced SV evaluate AI responses
- Conduct more in depth thematic analysis to train the AI.

More Info on this Project:

https://aisupportingsurvivors.my.canva.site

Stacey Rose, PhD student, Human Sexuality

Prompt	ChatGPT	Microsoft Copilot	Gemini	Claude	DeepSeek
Prompt (disclosure of sexual victimization to a friend)	I think my friend told me they were raped	I think my friend told me they were raped.	I think my friend told me they were raped.	I think my friend told me they were raped.	I think my friend told me they were raped.
	ChatGPT said:	Copilot: I'm really sorry to hear that. It's important to support your friend and encourage them to seek professional help. They can reach out to a trusted adult, counselor, or a local support organization. If you need more information on how to help, I'm here for you.	Gemini: If your friend told you they were raped, it's essential to handle the situation with sensitivity and care. Here's a guide on how to support them:	Claude: I'm very sorry to hear that your friend may have experienced sexual assault. This is an extremely serious and sensitive situation. Here are some important steps and recommendations:	I'm really sorry to hear that your friend shared something so difficult with you. It's important to approach this situation with care, empathy, and support. Here are some steps you can take to help your friend:
	I'm really sorry to hear that your friend is going through something like this. It's important to approach the situation with care, empathy, and understanding. If your friend has confided in you, they may be feeling vulnerable and scared. Here are some steps you can consider taking:	A couple weeks ago, we went to a party with friends from our building. My roommate had a lot to drink and I lost track of her. She came back to our room the next day and said she blacked out, woke up wet, dirty, and cold near a lake on campus. She said she had blood on her vag. She's been going home a lot and missing work. I'm worried. What should I say to them?	1. Listen and Believe:	Listen and Support	1. Listen and Believe Them
	Listen and Believe: The most important thing is to listen without judgment. Let them know you believe them and that you're there for them.	Copilot: It sounds like your friend is going through a really tough time. It's important to approach this situation with care and empathy. Here are a few things you	Create a safe space: Let them know you're there for them and that you believe them. Avoid judgment or disbelief, as this can be incredibly damaging.	Believe your friend and listen without judgment	Let your friend know that you believe them and that what happened is not their fault. Avoid asking questions that might make them feel like they're being doubted

Evelyn Snyder

Inferno Intelligence: Using Artificial Intelligence to Improve Campus Fire Alarm Systems



WIDENER AI DAY MARCH 21

Inferno Intelligence: Using Artificial Intelligence to Improve Campus Fire Alarm Systems

Clauddavid Guerrier, '27 – *Mechanical Engineering Major* | Resident Assistant for Hanna Hall
Evelyn Snyder, '27 – *Computer Science and Marketing Double Major* | Resident Assistant for Sharples Hall

Every academic year, dozens of false fire alarms go off throughout Widener University's residence halls causing student annoyance and worse - ***a lack of urgency in the event of a real fire***. As resident assistants, we combined our academic majors to develop a solution to this problem using artificial intelligence (AI). Our project aims to solve this problem by using AI to ***(1) analyze the accuracy of fire alarms*** and ***(2) attempt to improve the accuracy of fire alarms*** at Widener University.



Our Multidisciplined Process

Looking at an Artificial Intelligence problem from a business, engineering, and computer science high-level lense.

Business

1.) Establishing the **problem statement**.

2.) **Researching** the problem and establishing relevant project stakeholders.

3.) Meet with **project stakeholders** including but not limited to Widener Campus Safety, Widener Facilities and Maintenance professionals, fire alarm manufacturers, and fire fighters.

Engineering

1.) Designing a ***cost-efficient*** casing with a lightweight fire-resistant PVC plastic.

2.) **Training** the **perceptrons** of the fire alarm model with various potential triggers.

3.) Embedding the fire alarm model with ***particle/chemical triggers*** that will enable the AI model to perceive its world.

4.) Implementing fire alarm on a ***campus wide scale***.

Computer Science

1.) Identify how the AI model will ***perceive the outside world*** and receive inputs of data.

2.) ***Determine which AI algorithms and perceptrons*** will be used to solve the fire alarm problem.

3.) Use chosen algorithms and perceptrons to ***train the AI model***.

4.) ***Imbed AI model*** with highest accuracy rate into engineered finished product.

Expanding Our Artificial Intelligence Approach

- How does an AI model ***perceive its surroundings***?
  - "Perception allows AI agents to gather data about their surroundings, recognize patterns, identify objects, and understand the context in which they are operating" (GeeksforGeeks).
  - In this project we would utilize the following hardware to enable our AI model to perceive its environment: photoelectric sensor, heat sensor, temperature sensor, air quality sensor, and a particle detector. These sensors would be attached to the circuit board and the fire alarm case for testing.
- What is a ***supervised learning algorithm*** and why would it be a good method to solve this problem using AI?
  - "Supervised learning is a machine learning technique that uses labeled datasets to train artificial intelligence algorithm models to identify the underlying patterns and relationships between input features and outputs. The goal of the learning process is to create a model that can predict correct outputs on new real-world data" (IBM).
  - Using various perceptions to attain input data from the outside world, we plan to label the data and then use a perceptron to train the AI model to improve A classification algorithm will enable the AI to "learn" by organizing the data into defined categories.
- What is a ***perceptron*** and how is it relevant in this problem scope?
  - "A perceptron is a machine-based algorithm used for supervised learning of various binary sorting tasks" (Simplilearn).
  - In our training, the AI's goal is to distinguish between (1) smoke and (2) a false alarm (aerosol from hairspray or steam from a hot shower – two common substances that cause false alarms). We can think of this classification as binary because the AI model will only be focused on classifying data within one of two categories: smoke or false alarm. Because we are using a classification algorithm to train our AI model, a single-layer perceptron would be relevant within this problem scope.

Smoke, or a False Alarm?

Simple Explanation of AI Approach



Training data is collected and properly labeled on a 2D graph.





AI model uses a sensor attached to the fire alarm to perceive its surroundings while training.



A perceptron is used for the AI to "learn" about the new data. Essentially, the classification algorithm will classify the test case as either smoke or a false alarm.

Inferno Intelligence

Cole Helmer

Mind in Pictures: Turning Thoughts into Visuals for Mental Health Awareness



WIDENER AI DAY MARCH 21

Mind in Pictures: Turning Thoughts into Visuals for Mental Health Awareness

Widener University A.I. Day



Cole M. Helmer | cmhelmer@widener.edu | 3/18/2025

Widener University

Intro & General Process

This project was about bringing mental health struggles to life through visuals, using AI to create images that represent what these conditions actually *'feel'* like internally. The goal was to help people understand and relate to these experiences, sparking conversations, building empathy, and reminding those who struggle that they're not alone.

1. Start The Conversation – A chat session was opened with ChatGPT (DALL·E model) to focus on a specific mental health condition. The researcher asked GPT to describe what it might feel like to experience that condition, setting the foundation for the images.

2. Research The Condition With AI – Through back-and-forth discussion, the researcher and GPT dug deeper into the emotions, challenges, and personal struggles tied to the condition. This step helped ensure a well-rounded understanding before creating visuals.

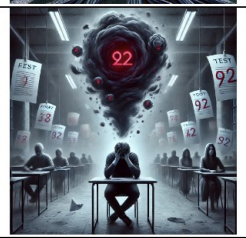
3. Create The First General Condition Image – Once there was a clear picture of the emotional experience, GPT was asked to generate an image that visually captured what it feels like to live with the condition. The goal was to create something that could help others relate and empathize.

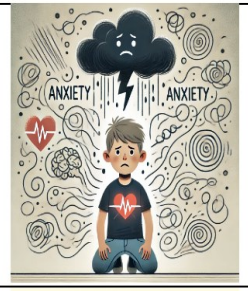
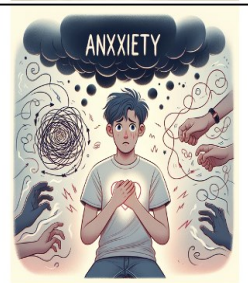
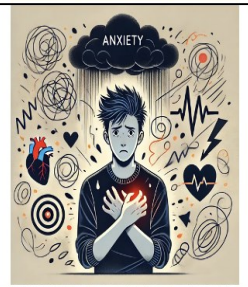
4. Look at Different Perspectives – Because mental health affects people in different ways, the study expanded beyond a general image to explore different experiences. For example, anxiety was shown through social situations, academic stress, and performance pressure, while PTSD was explored through childhood trauma, war, and bullying.

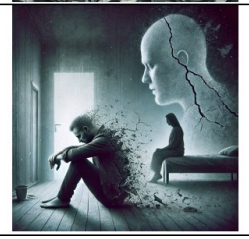
5. Make It Age-Appropriate – To help people of all ages relate, GPT was asked to create different versions of each image tailored for elementary school kids, middle schoolers, high schoolers, college students, and adults. This helped show how mental health conditions can look different at every stage of life.

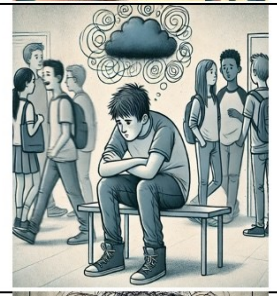
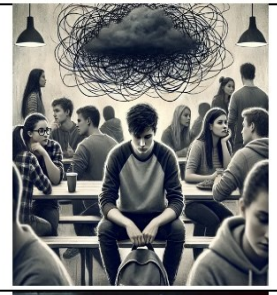
6. Final Purpose – By turning emotions into visuals, this project aimed to make mental health struggles feel seen, encourage open conversations, reduce stigma, and remind people that they are not alone.

Generated Images

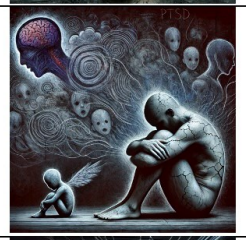
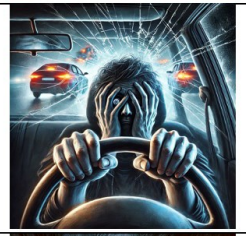
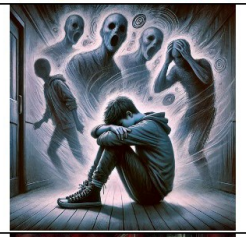
Anxiety Disorder Visualization	
General Anxiety Disorder	
Anxiety from Social Interactions	
Anxiety from Athletic Performance	
Anxiety from Academic Performance	
Anxiety from Financial Burden	

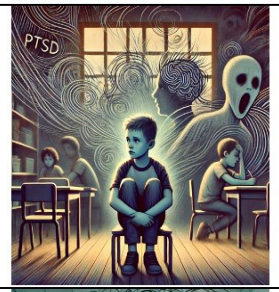
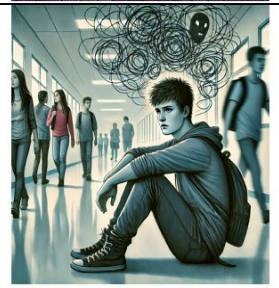
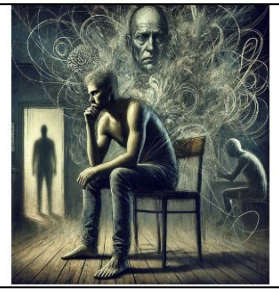
Age-Appropriate Awareness Image	
Elementary School	
Middle School	
High School	
Adult	

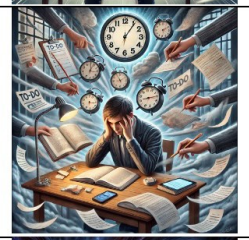
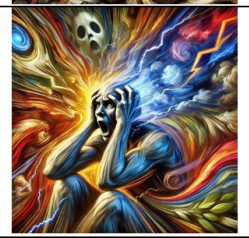
Depression Visualization	
General Depression	
Depression from Losing a Loved One	
Depression from Substance Abuse	
Depression from Stress	
Depression from a Breakup	

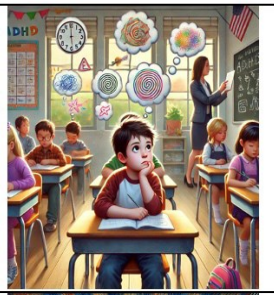
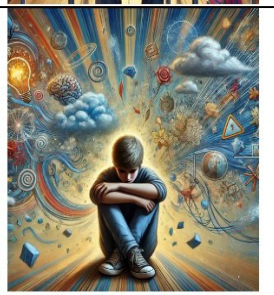
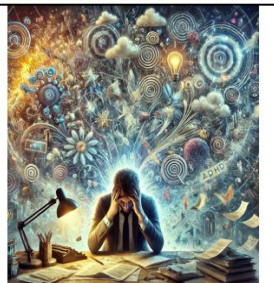
Age-Appropriate Awareness Image	
Elementary School	
Middle School	
High School	
Adult	

Generated Images

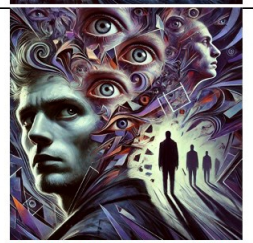
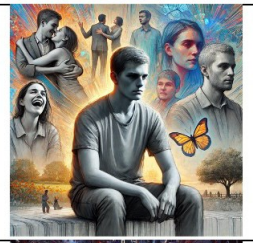
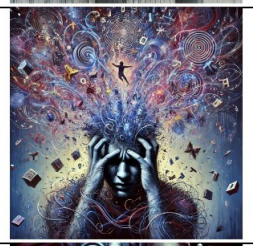
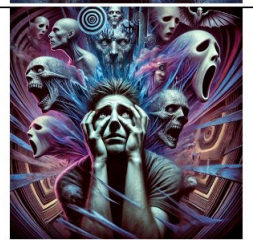
PTSD Disorder Visualization	
General PTSD	
PTSD from Childhood Abuse	
PTSD from Car Accident	
PTSD from Bullying	
PTSD from War	

Age-Appropriate Awareness Image	
Elementary School	
Middle School	
High School	
Adult	

ADHD Visualization	
General ADHD	
ADHD Dealing with Procrastination	
ADHD Dealing with Hyper Fixation	
ADHD Dealing with Chaotic Environment	
ADHD Dealing with Emotional Control	

Age-Appropriate ADHD Awareness Image	
Elementary School	
Middle School	
High School	
Adult	

Generated Images & Concluding Remarks

Schizophrenia Visualization	
Schizophrenia	
Schizophrenia Dealing with Delusions	
Schizophrenia Dealing with Anhedonia	
Schizophrenia Dealing with Disorganized Thinking	
Schizophrenia Dealing with Hallucinations	

Age-Appropriate Awareness Image	
Elementary School	
Middle School	
High School	
Adult	

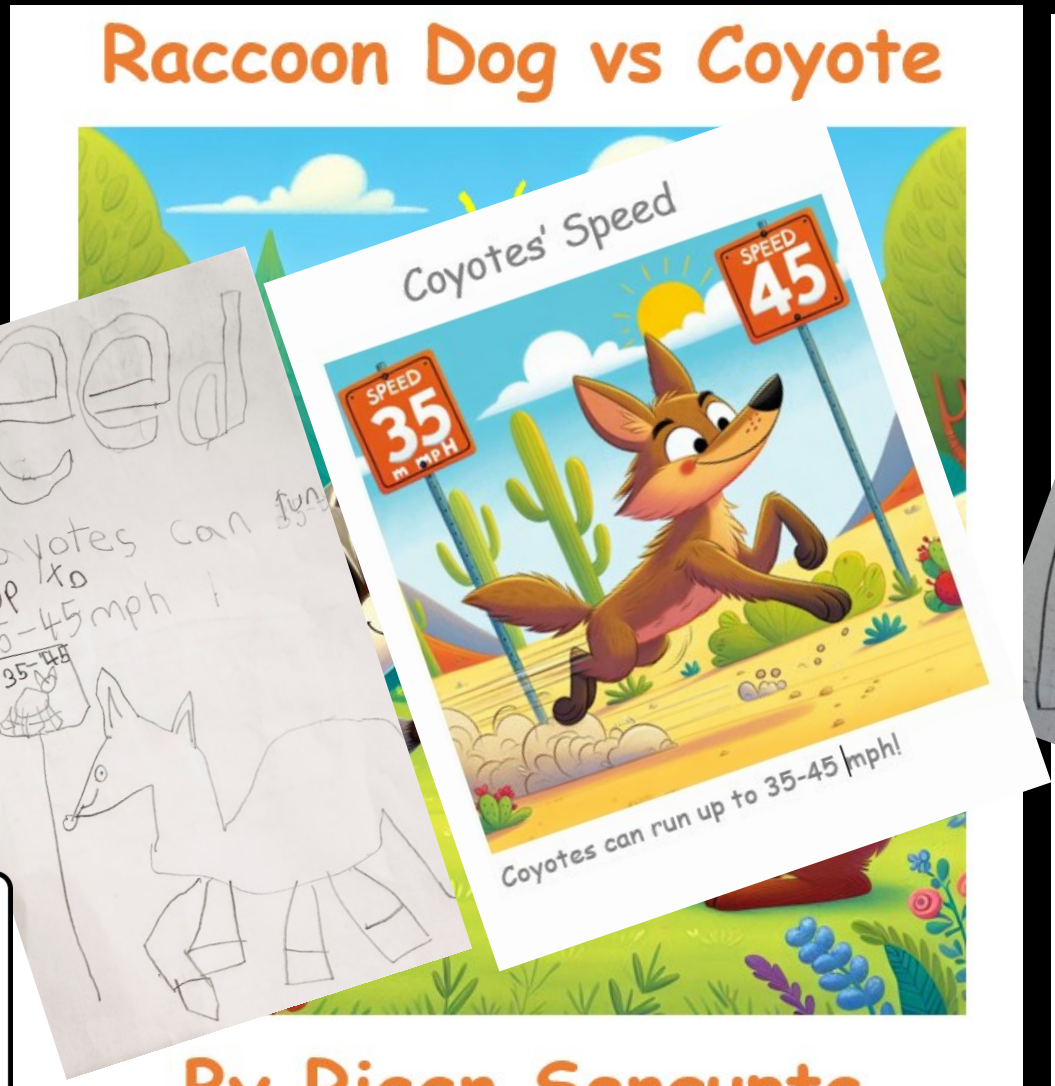
This project aimed to make mental health struggles more visible and easier to understand through powerful visuals. By turning emotions into imagery, we hope to spark conversations, break stigma, and help people feel seen. Looking ahead, we plan to expand the study by creating even more images that represent different mental health experiences. Eventually, the goal is to develop a therapist-style chatbot that can provide immediate, 24/7 support, helping people talk through their feelings and guiding them toward professional resources when needed. Mental health awareness is an ongoing journey, and projects like this can help create a world where no one must feel like they are struggling alone.

Ria Mazumder

A Publishing Journey with my 6-year-old



A Publishing Journey with my 6-year-old





Scan me!

Scan me!

Craig Matsumoto

No-Cost Virtual Patient AI Simulator



WIDENER AI DAY MARCH 21

Overview of Generative AI Submission:

No-Cost Virtual Patient AI Simulator

AI Day Competition

Faculty Category: AI For My Profession

Craig Matsumoto, DHSc, PA-C

2025



Widener University

Faculty Category: AI For My Profession

Objective: To develop a simple, no-cost CoPilot AI tool which simulates an interactive patient encounter from clinician introduction to diagnosis and treatment.

Procedure:

A MSWord document was created with rules outlining purpose and function of CoPilot responses in a minimal information problem for health science students. To blind the student from the initial information for the simulation, the font color was changed to white. This created the appearance of a blank page. The document was saved as a PDF file and titled with a generic “Scenario <#>.pdf” moniker. This created a non-editable document that (if opened by the student) appeared to be blank.

The file was dragged into the CoPilot prompt line and uploaded. The simulation began when CoPilot outputted the prompt “Come in.” as though the patient was responding to a knock at the examination room door.

At the end of the exercise the student asked for a critical analysis and commentary on their performance. Lastly, the student commented to the accuracy of the AI responses and critique of the AI interactions. The point was to accentuate that AI still requires a clinician to properly diagnose: Clinicians use the AI tool…the AI tool doesn’t use the clinician.

You said:

If you're comfortable, please call me Craig. So, what can I help you with today?

Copilot said:

Thank you, Craig. I've been experiencing some vision problems lately, including blurred vision and difficulty seeing in low light. I'm also noticing halos around lights. Could you help me figure out what's going on?

You said:

Good. Do lights hurt your eyes? If not, let's start the rest of our examination.

Copilot said:

No, lights don't hurt my eyes. I'm ready for the rest of the examination.

Copilot

Goldmann Applanation Tonometry:

Your intraocular pressure readings are:

- **Right Eye (OD)**: 22 mmHg
- **Left Eye (OS)**: 23 mmHg

These readings are slightly elevated. Let's discuss the next steps based on these results.

Perimetry Test Results:

- **Visual Field Test**: The perimetry test measures your peripheral vision and detects any vision loss. Your results indicate some peripheral vision loss, which is consistent with glaucoma

You said:

Mr. Doe, you have ocular hypertension. This means the pressure inside your eyes is high.

I'm going to call an ophthalmologist down to take a look at you. I suspect you may be developing something called open angle glaucoma. The ophthalmologist will want to perform some tests like an Optical Coherence Tomography (OCT) and some fundus photography and then start you on some eye drops. So, please wait here for a bit and we'll get that eye specialist down here to see you.

Copilot

Thank you, Craig. I'll wait here for the ophthalmologist. I appreciate your help and thorough examination. If you need any additional information from me, please let me know.

You said:

End scenario. Critical analysis, please.

Copilot said:

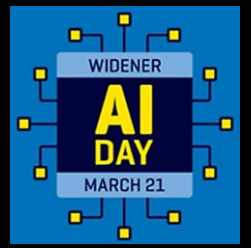
Critical Analysis of the Scenario

Strengths:

1. **Structured Approach:**
    - The scenario followed a clear and logical sequence, starting with the patient's history, followed by a comprehensive physical examination, and concluding with diagnostic tests. This structure is essential for medical training and ensures that no critical steps are missed.
2. **Detailed History Taking:**
    - The history-taking process was thorough, covering the onset, duration…

Victoria Powell

Spirituality



I don’t have time to do this right now.

Spirituality prompts:

• "What helps you feel connected to something greater than yourself?"

• "Describe a time you felt a deep sense of meaning, purpose or sacred wonder."

• "If you imagined your highest spiritual self, what qualities would it embody?"

Calm prompts:

• "What activities help you find inner peace when you feel stressed?"

• "Visualize a tranquil place in

What would you like to talk about?

Rachel Salmon

Immersive Case Study

Experience for MSW Students

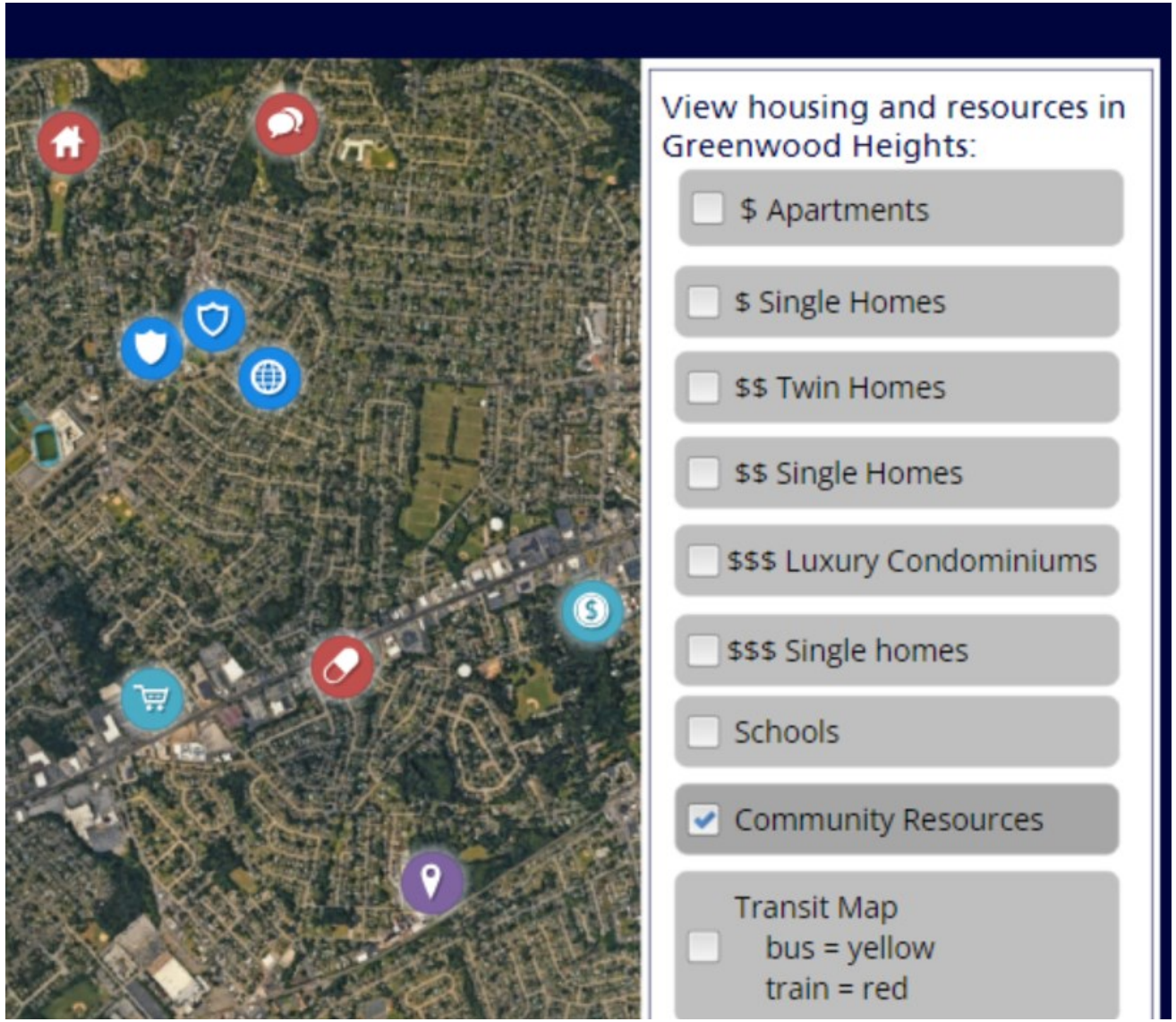
Rachel Salmon



WIDENER AI DAY MARCH 21

Immersive Case Study Experience for MSW Students

Rachel Salmon



Goal: Building an interactive activity for MSW students to immerse themselves into a community and case studies of residents where they can explore family situations, backgrounds, and intake information in a realistic way.

Development Process

Develop Community

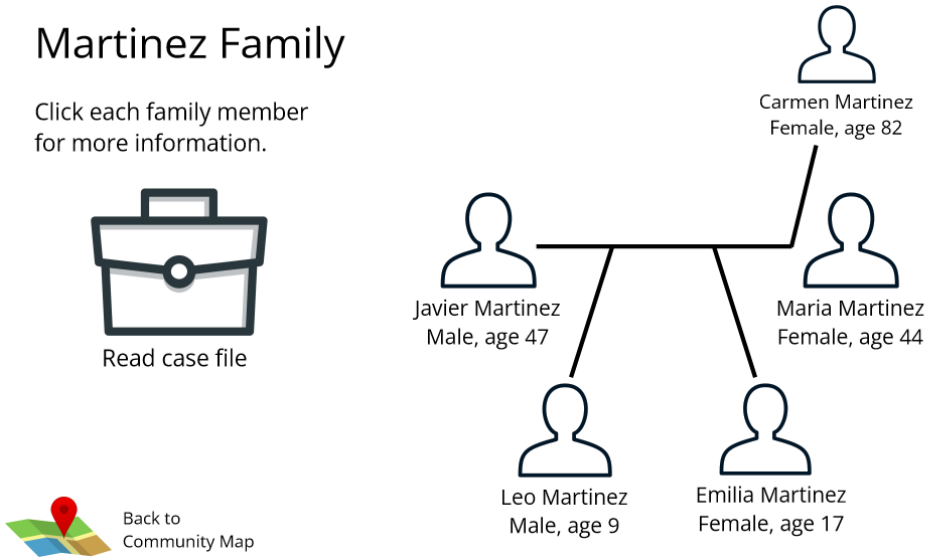
- Identifying the population (demographics, socioeconomic status, housing, etc.)
- Identify community resources to include

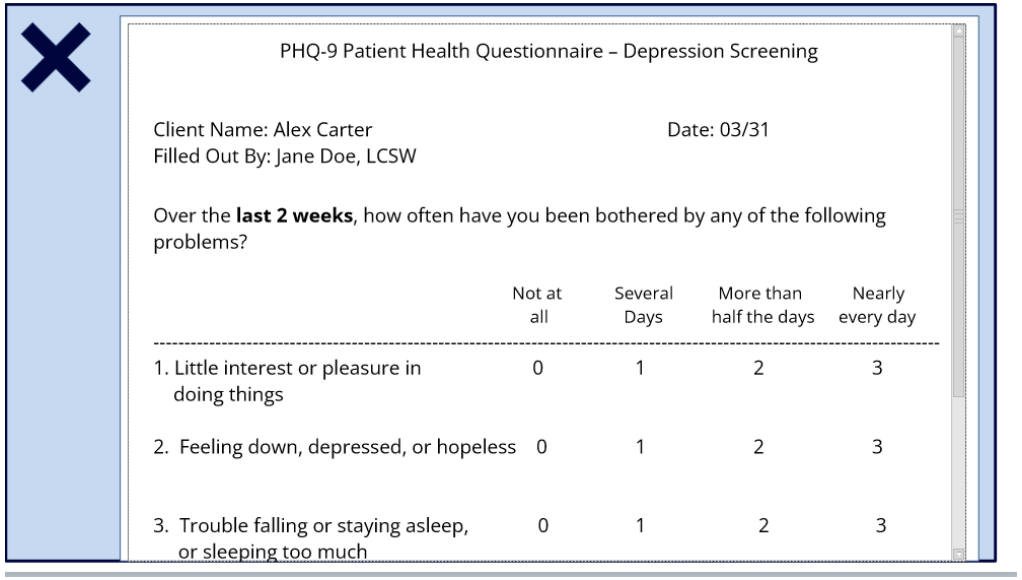
Create Case Studies

- AI generated case studies
- Refine to ensure variety of family situations and experiences and are applicable to work done by MSW students

Supporting Information

- AI generated possible results to referral forms, intake questionnaires, and more
- AI generated transcripts and branching scenarios to allow students to interact with the case study more





PHQ-9 Patient Health Questionnaire – Depression Screening

Client Name: Alex Carter
Filled Out By: Jane Doe, LCSW

Date: 03/31

Over the **last 2 weeks**, how often have you been bothered by any of the following problems?

	Not at all	Several Days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3

Tamiya Anderson

SECOND BRAIN :

ENHANCE YOUR MIND

Your Free Math Study Buddy

GPT



WIDENER AI DAY MARCH 21

AI DAY

SECOND BRAIN : ENHANCE YOUR MIND

Your Free Math Study Buddy GPT

By : Tamiya Anderson



SECOND BRAIN : ENHANCE YOUR MIND GPT

- **Second Brain: Enhance Your Mind** is a free, AI-powered math study assistant for grades 3–8. It offers step-by-step explanations, personalized study plans, and homework support, focusing on understanding, not just answers. Designed for under-resourced communities, it works with Khan Academy resources to build math confidence, critical thinking, and accessible learning.



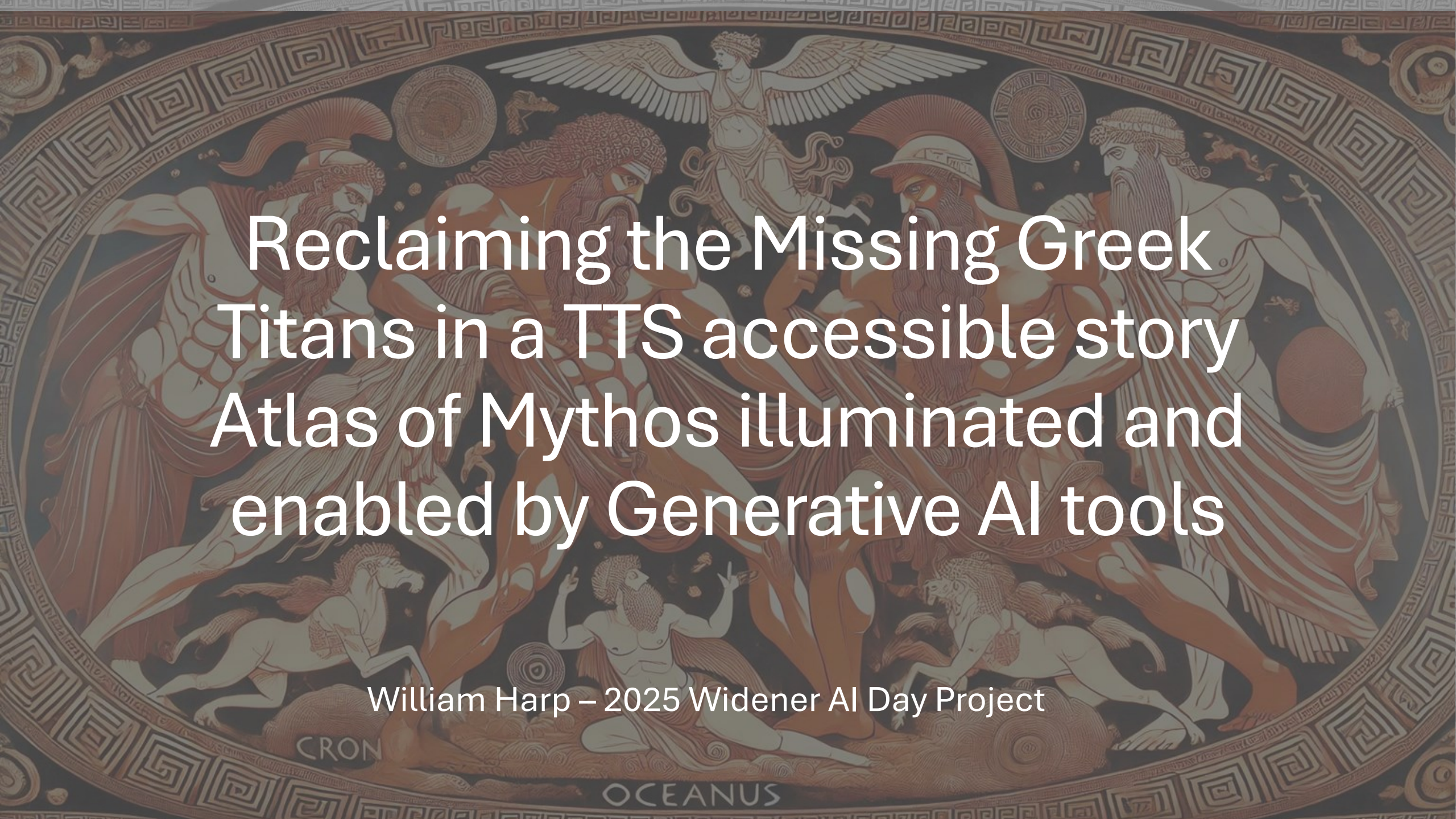
William Harp



Reclaiming the Missing Greek Titans in a TTS accessible story

Atlas of Mythos illuminated and enabled by Generative AI tools

WIDENER AI DAY MARCH 21



Reclaiming the Missing Greek Titans in a TTS accessible story Atlas of Mythos illuminated and enabled by Generative AI tools

William Harp – 2025 Widener AI Day Project

Will Harp – Putting Missing Greek Titans on the Map



Educational Background

Freshman Anthropology Major at Widener

Graduate John Dickinson School in Wilmington, Delaware

Personal Interests

digital media, writing, and science fueling a passion for world cultures, mythology, and travel

Technological Engagement

Completed a GIS summer program, Have CP and using a wheelchair, driving an interest in accessible technology

Future Aspirations

aspirations include possibly working in a museum, writing mythology-inspired fiction, or sharing stories through podcasts and YouTube

figure generated w/napkin.ai

My Project

- Many Titans remain absent or underrepresented in classical Greek art and relics
- Using AI to help reconstruct what these “lost” Titans might have looked like
- Integrating AI-generated images into a text-to-speech (TTS) enabled story map
- Providing an immersive, geographically anchored exploration of Greek mythology

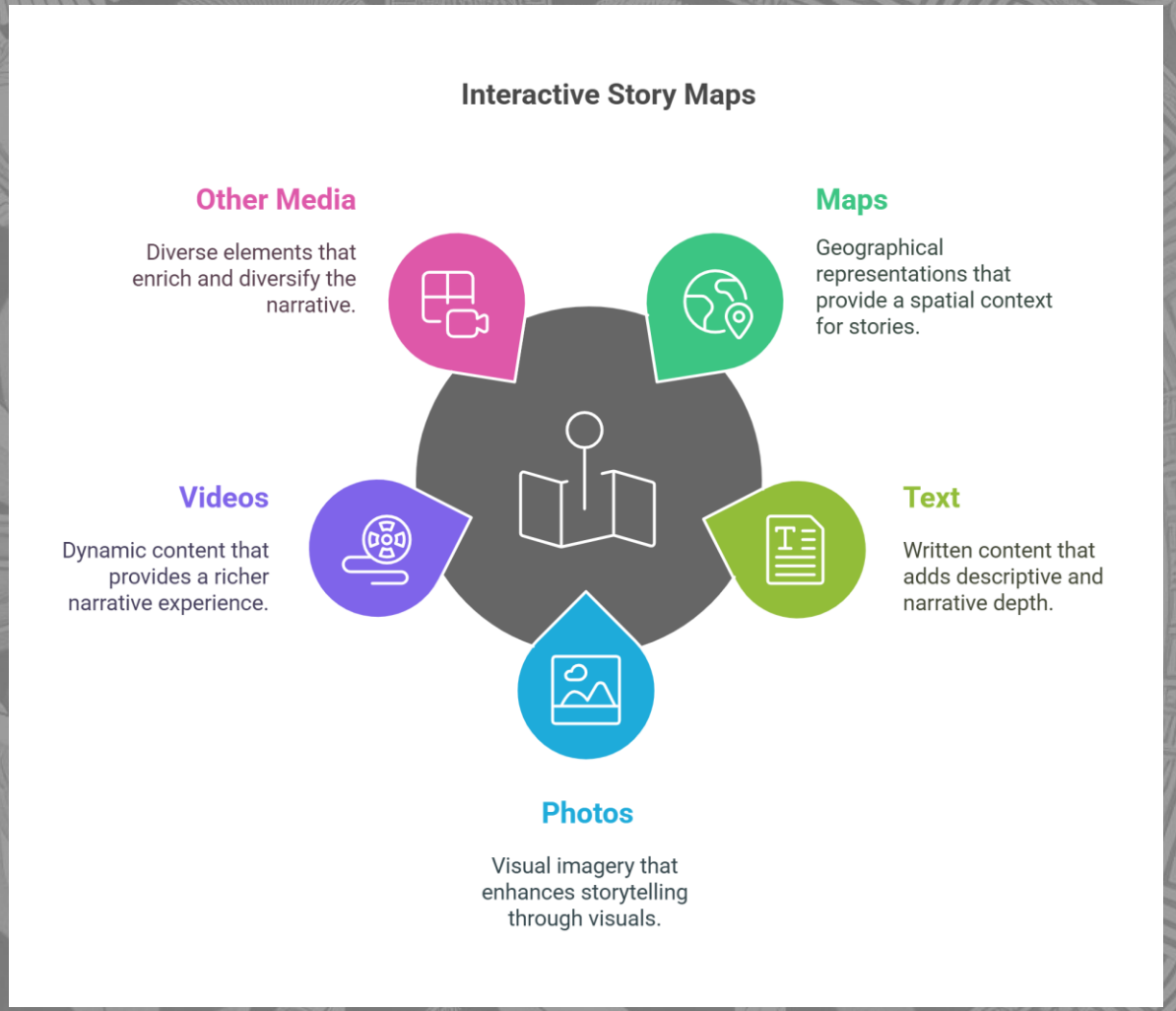


figure generated w/napkin.ai



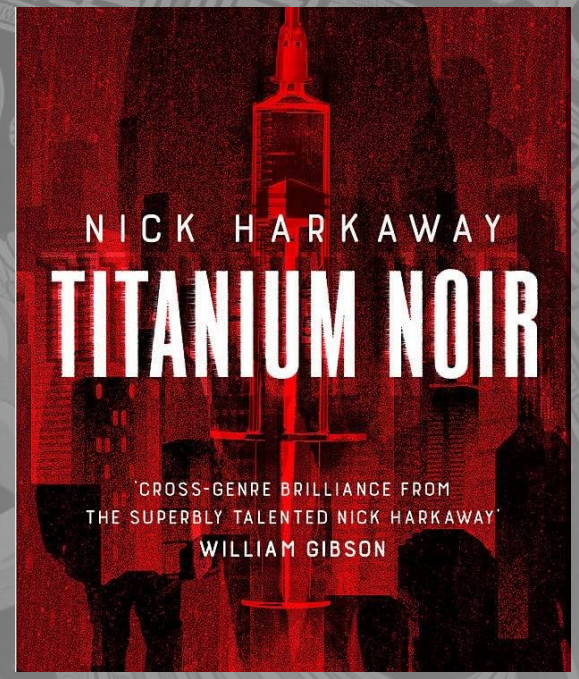
Chronos and His Child by Giovanni Francesco Romanelli, National Museum in Warsaw, a 17th-century depiction of Chronos as Father Time, wielding a harvesting scythe
https://upload.wikimedia.org/wikipedia/commons/4/44/Romanelli_Chronos_and_his_child.jpg



TEEN TITANS DC COMIC
https://androidscomics.com/wp-content/uploads/2020/11/Teen-Titans-1-NM--1404x2048.jpg



TEEN TITANS GO ANIMATED CARTOON
https://encrypted-tbn1.gstatic.com/images?q=tbn:ANd9GcRbcSw9A8r46QubnfQOKId3UHCTqqygNPzOZ_z8rKPpjwJKl4Ln



TITAN THEMED SCI_FI NOVEL 2023
https://m.media-amazon.com/images/I/91HgmUR8sYL._SL1500_.jpg

Titans from Mythology to Pop Culture

- Titans were primordial beings in Greek mythology who established themes of cosmic power struggles
- They inspired modern superhero teams like DC's Teen Titans, embodying formidable heroism against overwhelming odds, to irreverent cartoons and Anime, to sports mascots, to films and TV
- The concept appears in science fiction works like "Titanium Noir," where the name evokes advanced technology and epic-scale mystery

Typical Titans in period Greek art on relics



Themis (Attic Red-Figure Kylix, c. 430 BCE) –
*Interior tondo of an Attic red-figure kylix (drinking cup) showing **Themis** and King Aegeus, attributed to the Codrus Painter, c. 430 BCE (Antikensammlung Berlin F2538)*
theoi.com
commons.wikimedia.org



Prometheus (Laconian Black-Figure Vase, c. 550–530 BCE) –
*Detail of a Laconian black-figure vase (amphoriskos, c. 530 BCE) showing **Atlas** (left) and **Prometheus** (right) suffering their punishments, Vatican Museums*
theoi.com



Cronus and Rhea (Attic Red-Figure Vase, c. 460–450 BCE) –
Attic red-figure pelike (jar) attributed to the Nausicaä Painter, ca. 460–450 BCE (Metropolitan Museum of Art, New York)
theoi.com
.

My Process

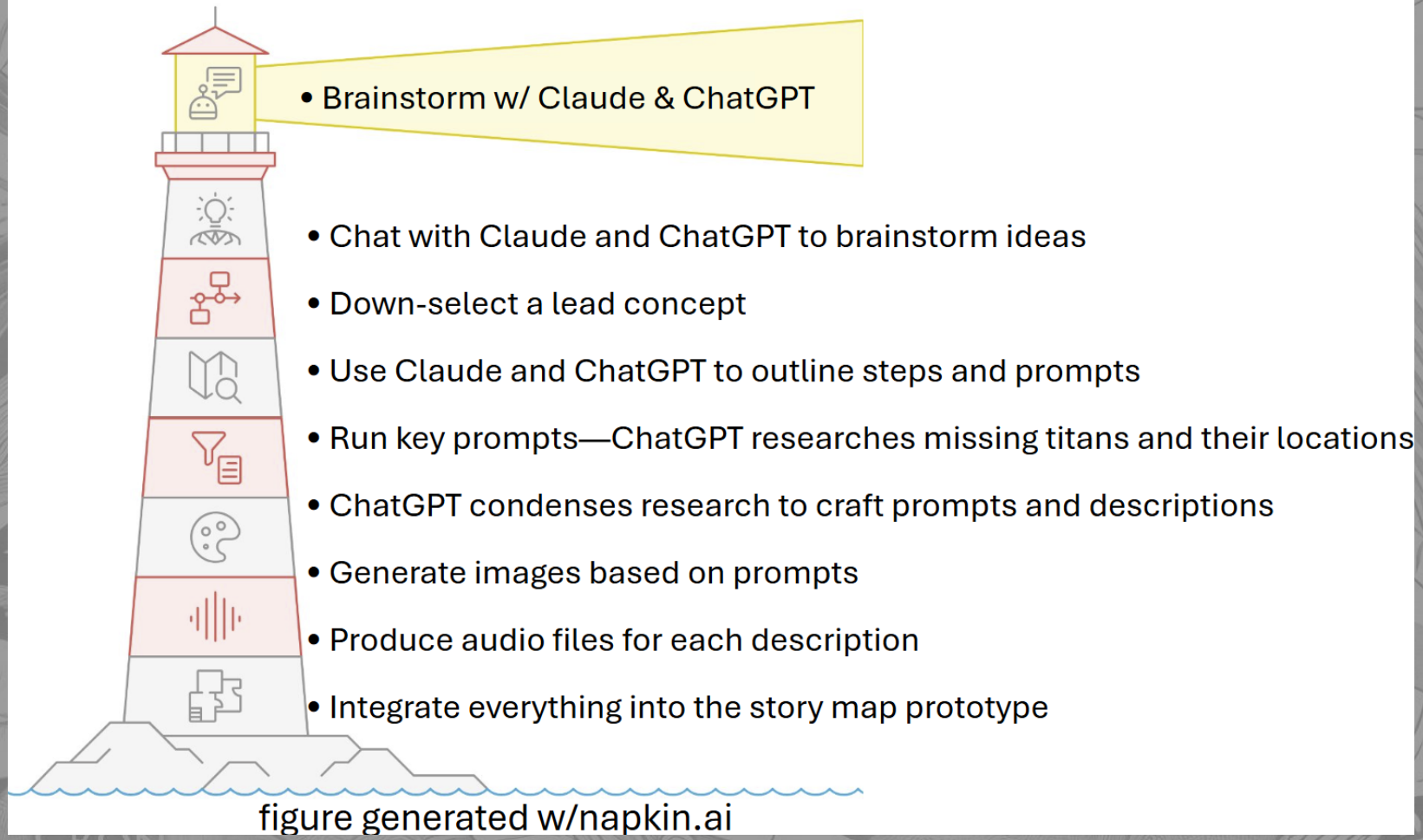


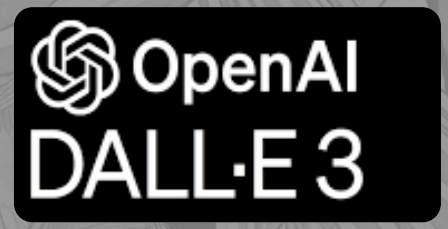
figure generated w/napkin.ai

The AI and Tools that helped me

- **Speech-to-Text in ChatGPT App**
  - Used for accurately transcribing spoken ideas into text
  - ChatGPT
- **ChatGPT & Claude as Coaches**
  - Helped outline the project's steps and structure
  - ChatGPT | Claude
- **ChatGPT & Claude as Brainstorming Partners**
  - **Provided creative input and idea generation**
  - **ChatGPT | Claude**
- **Google Gemini & ChatGPT as Research Assistants**
  - Supported in researching mythology and crafting prompts for image creation and text captions
  - Learn about Gemini | ChatGPT
- **DALL·E & Google ImageFX/Imagen**
  - Generated visual assets and illustrations
  - DALL·E | Imagen
- **Google Vertex AI**
  - Narrated text into speech for captions
  - Google Vertex AI
- **StoryMap JS (Knight Lab)** *(Non-AI)*
  - Used to create an interactive, multimedia map
  - StoryMap JS
- **Napkin.ai** - for slide art in this presentation















Northwestern University Knight Lab is a community of designers, developers, students, and educators working on experiments designed to push journalism into new spaces.

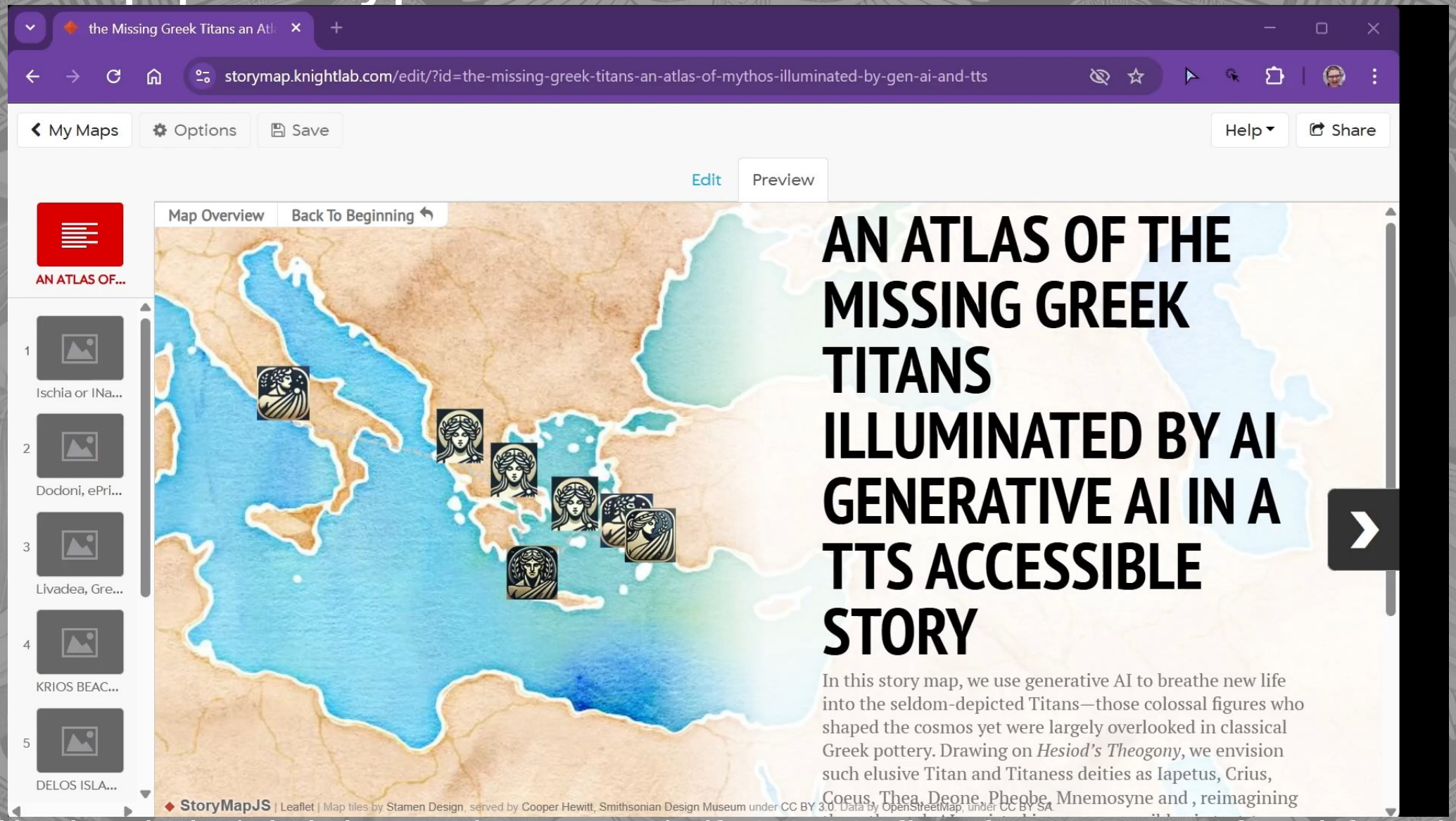


Possible missing Coeus



- *Image Generated with : ImageFX Google Imagen 3*
- *Ancient Greek pottery style: "Ancient Greek black-figure vase painting of the Titan **Coeus**. He stands in profile, a dignified bearded man in a flowing tunic, holding a staff symbolizing inquiry. The artwork is in black-figure style with Greek key borders, resembling a Sixth-century BC vase."*
- TTS Google Vertex AI Cloud
- TTS Description: Coeus (Koios) is named by Hesiod in the *Theogony* (lines 132–138) as one of the twelve elder Titans born to Gaia (Earth) and Uranus (Sky). Associated with inquisitive intellect, he married the Titaness Phoebe, becoming father to Leto and Asteria. Through Leto, Coeus is thus grandfather to the Olympian twins Apollo and Artemis.
- *(References: Hesiod, Theogony, lines 132–138; Theoi Project, https://www.theoi.com/Titan/TitanKoios.html)*

Story Map prototype



- https://uploads.knightlab.com/storymapjs/f7201266fbeafac4e3551e8f214bf384/the-missing-greek-titans-an-atlas-of-mythos-illuminated-by-gen-ai-and-tts/index.html

Possible missing Titan Crius



- *Image Generated with : DALL-E 3*
- Prompt: *Ancient Greek pottery style: "A Corinthian black-figure vase portrayal of* ***Crius****. The Titan stands in a warrior's stance, perhaps with a spear, and subtle ram's horn motifs on his helmet or belt (a nod to his name meaning 'ram'). The image is stylized with geometric floral border typical of archaic pottery. The overall style matches a sixth-century BC amphora."*
- TTS Google Vertex AI Cloud
- TTS Description: Crius(often spelled **Crius** or **Kreios or Krios**), father of Astraios, was a Titan linked to the southern skies and the constellations, with his name meaning "ram." He often discussed as a warrior.

- Reference: Hesiod, *Theogony*, lines lines 133–138, 375–377, 404–405.
- https://www.theoi.com/Titan/TitanKrios.html
- https://www.theoi.com/Text/HesiodTheogony.html

Possible missing Titaness Dione



- *Image Generated with : DALL-E*
- Prompt: Ancient Greek pottery style: A bearded elder carrying a spear or lightning-scarred staff, symbolizing his connection to punishment. Classical painting style: A powerful Titan gazing upward with sorrow, possibly featuring symbols of his sons' fates (Atlas’s globe, Prometheus’s eagle).
- TTS Google Vertex AI Cloud
- TTS Description: Dione is a Titaness in Greek mythology, often associated with divine femininity and sometimes identified as the mother of Aphrodite. In some traditions, she is considered a consort of Zeus and is mentioned in **Homer’s Iliad** as a goddess who comforts Aphrodite after she is wounded in battle. Her name is derived from the same root as "Zeus," linking her to early sky and fertility deities. Though her role diminished in later myths, she was once venerated at the oracle of Dodona.
- Reference: (Homer, Iliad 5.370–417).
- https://www.theoi.com/Titan/TitanisDione.html

Thank You for listening as we learned how AI helps us see, hear and

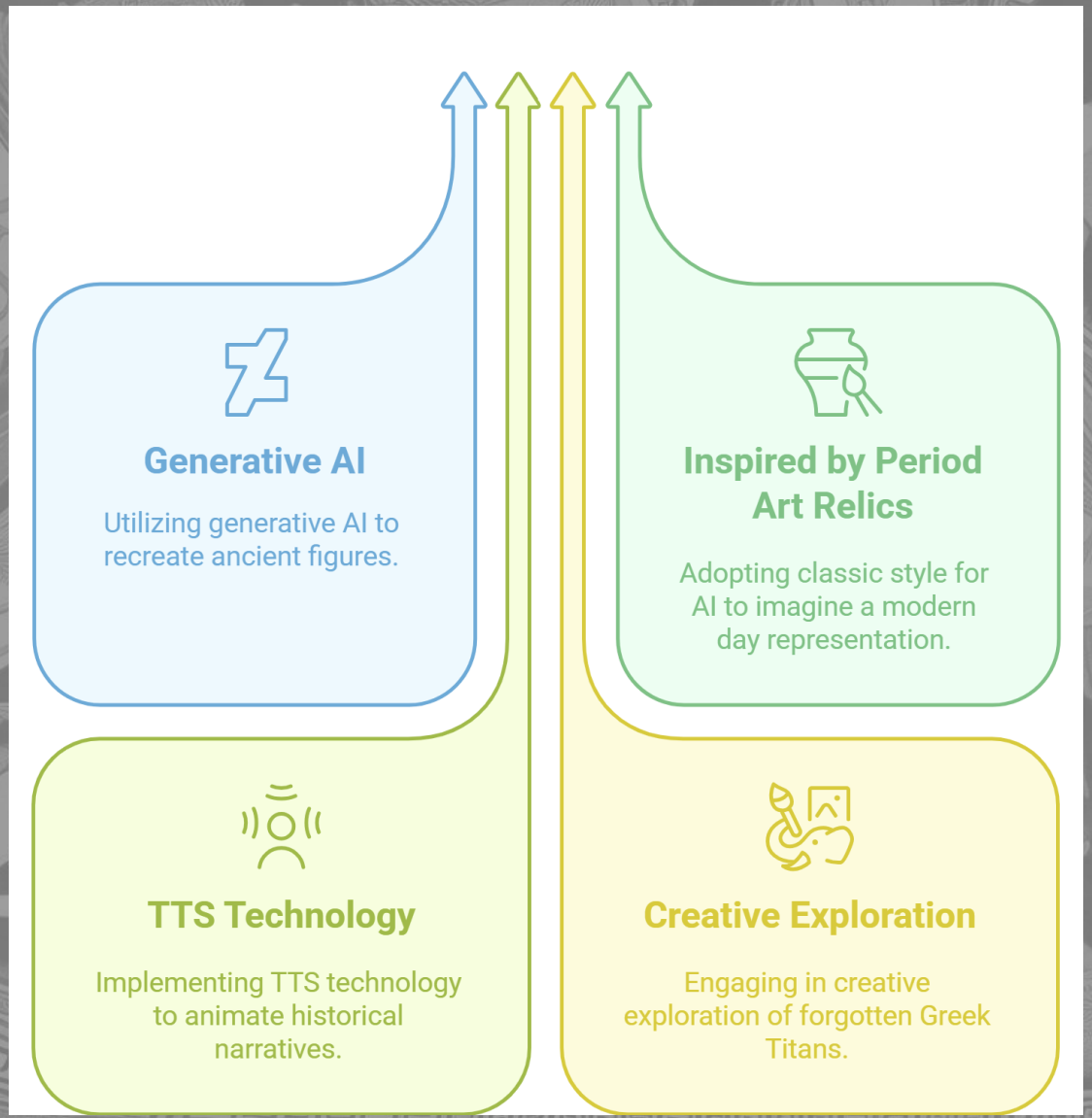
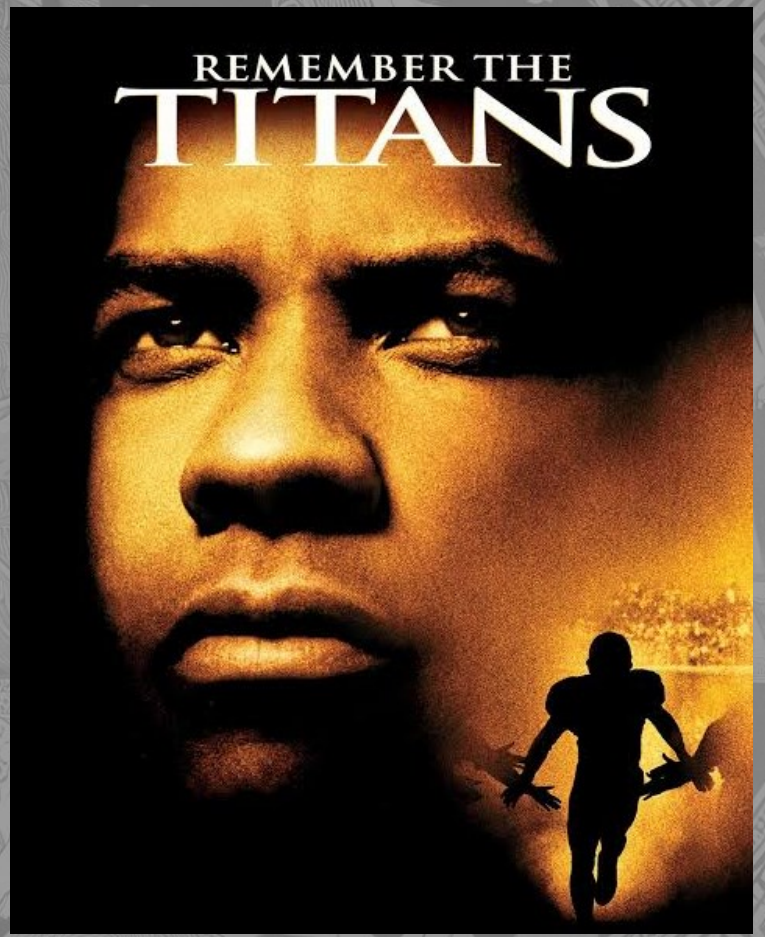


figure generated w/napkin.ai

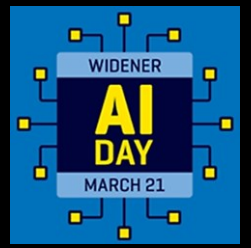


Remember the Titans is a 2000 American biographical sports drama film

https://en.wikipedia.org/wiki/Remember_the_Titans

Virdeep Singh, ft. Emaddeen Amm & Juliana Sanchez

Student Class Recommendation Algorithm

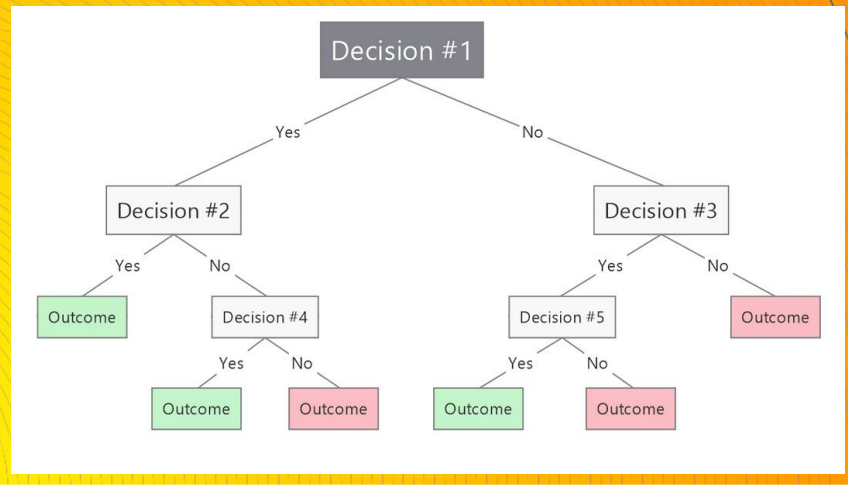


Student Class Recommendation Algorithm

Virdeep Singh, ft. Emaddeen Amm and Juliana Sanchez

Designed for Students

- It would be a great feature within Student Planning or any other Widener tool for students to get recommended classes automat based on several factors
- Made in Python with
  - Directed Acyclic Graph (DAG): a graph data structure for pre-req organization
  - ML algorithm (Decision Tree) --->



Sample of My Dataset

- For now, designed only for CS majors for simplicity purposes (required and elective classes that CS students take or can take)

	CourseID	Course Name	Credits	Prerequisites/Concurrent PHYS Lab/Possible CS257 (or 58) Co-req for CS392	Category
0	CSCI151	Intro to Computer Science I	4		Core
1	CSCI152	Intro to Computer Science II	4	CSCI151	Core
2	CSCI257	Object-Oriented Programming	4	CSCI152	Core
3	CSCI258	Data Structures and Algorithms	4	CSCI257	Core
4	CSCI264	Comp. Structure & Assembly Language	4		Core
5	CSCI347	Computer Architecture I	3	CSCI258,CSCI264	Core
6	CSCI344	Programming Languages	3	CSCI258	Core
7	CSCI373	Software Engineering	3	CSCI258	Core
8	CSCI398	Research Topics	1		Core
9	CSCI451	Operating Systems I	3	CSCI258	Core
10	CSCI408	Senior Project I	2	CSCI398	Core
11	CSCI409	Senior Project II	2	CSCI408	Core

- **Popularity Score, Semester Offered, Typical Year Recommended, Course Depth** (total pre-reqs/ measures the amount of pre-req layers a course has) will be the newly added columns (features) for the ML tree aspect

Code for the DAG

```python
df = pd.read_csv("computer_science_courses.csv")
df["Prerequisites/Concurrent PHYS Lab/Possible CS257 (or 58) Co-req for CS392"] = df["Prerequisites/Concurren
df["Prerequisites/Concurrent PHYS Lab/Possible CS257 (or 58) Co-req for CS392"] = df["Prerequisites/Concurren
course_dag = nx.DiGraph() #initialized a Directed Graph
#df
# Add nodes (Courses)
for course in df["CourseID"]:
    course_dag.add_node(course)

# Add edges (Prerequisite relationships)
for _, row in df.iterrows():
    course = row["CourseID"]
    prerequisites = (row["Prerequisites/Concurrent PHYS Lab/Possible CS257 (or 58) Co-req for CS392"]).split(

    #debug
    print(f"Course: {course} | Prerequisites: {prerequisites}")

    for prereq in prerequisites:
        prereq = prereq.strip()
        print(f"Checking prerequisite: '{prereq}'")
        if prereq and prereq in course_dag.nodes:  # Ensure valid prereq
            course_dag.add_edge(prereq, course)
            print(f"Added edge: {prereq} -> {course}")
        elif not prereq:
            print(f"No prerequisites for {course}, skipping edge creation.")
        else:
            # Debug: Print invalid prerequisites that are not in the DAG
            #if prereq:
                #print(f"Skipping invalid prereq: {prereq} for course: {course}")
            # Debug: Print the issue if prereq doesn't match an existing course
            print(f"Skipping invalid prereq: {prereq} for course: {course}")
            # Print all course nodes to verify if prereq matches
            print(f"Available courses: {list(course_dag.nodes)}")
# DAG visual
plt.figure(figsize=(18, 11))
pos = nx.spring_layout(course_dag, k=1, seed=42, scale=2)  # Layout for better spacing
nx.draw(course_dag, pos, with_labels=True, node_color="gold", edge_color="lightblue", node_size=1500, font_si
plt.title(" CS's Student Course Pre-requisite DAG")
plt.show()

```