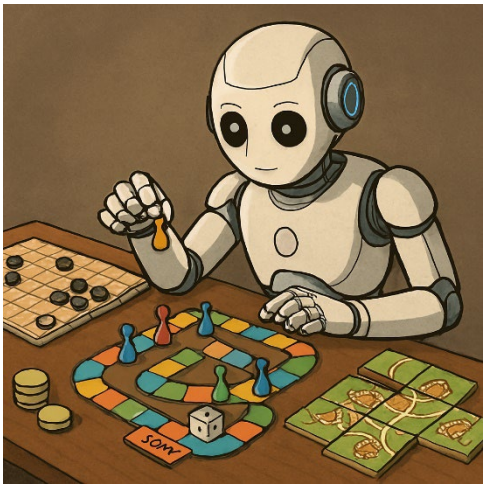

EN 501.145
Fall 2025
FYS: Explaining AI through Games

Course Description

This course will look at Artificial Intelligence and the algorithms and technology behind it through the lens of games. We will discuss how popular games such as Wordle, Crossword Puzzles, and Cards Against Humanity offer really detailed insights into the core workings of AI – from how they are trained, to what happens when they are deployed to users in the wild. While we will get into cutting-edge algorithms and engineering advances, no prior technical knowledge or programming skills are required. At the end of the semester, students will be able to understand and debate engineering decisions and principles underlying all of the fundamental technological aspects of Modern AI systems. Students are expected to come to class prepared to discuss assigned readings and there will be a class project to build an AI Bot to play the popular TV show game Wheel of Fortune.

Logistics

Online Resources
Course materials will be posted on the course website on an ongoing basis at this link:
https://maieutic-nlp.github.io/Teaching-AI-Games/

Instructor
Professor Kenton Murray, kenton@jhu.edu

Meetings
Every Thursday 3:00-5:30 in Malone G33/35

Office hours are by request.

No Class on:

- October 16th – Fall Break
- November 27th – Thanksgiving break

Course Format, Prerequisites, and Expectations

This is a discussion-based course without any prerequisites. The ability to program is not required (we will use AI 😊).

Typically, there will be:

- Assigned required readings to be completed before class.
- Games to play in class. Participation is expected.
- In-class discussions about:
    - Strategies for playing the game
    - Algorithms needed to play
    - How this relates to core AI concepts
    - Takeaways from the readings

Students are expected to:

- Co-facilitate class discussions
- Bring to class ideas for discussion based on the readings
- Keep up with the assigned readings
- Be an active participant in the games
- Share discoveries, outside resources (readings, videos, recordings)
- Show up for almost all of the meetings (attendance will be taken)
    - If you are sick please do not come to class but you should get a medical excuse from a doctor/clinic – when you do that this is considered and excused absence
    - You are allowed at most 2 unexcused absences
- **Be respectful of the other students** (see further note below)
- Participate in the discussions, meaning
    - Listen
    - Speak up (students who do not speak up will be prompted by the instructor)
- Try to make friends

Some of the games we will play have the potential to offend, insult, make uncomfortable, etc. other students in the class. Please be respectful of others. Come prepared with the knowledge that this might happen occasionally through unintentional gameplay. **However, intentional offenses directed at other students or groups/classes of people will not be tolerated**.

Please let the instructor know (privately if desired) if you do not want to participate in particular games.

Evaluation/Grading

The course is graded on a Satisfactory/Unsatisfactory basis (S or U will appear in your transcript). There are no exams. The evaluation of student performance is solely based on participation in class as well as submitting an adequate final project. If students are not engaging in the class, the instructor reserves the right to add additional writing assignments or pop quizzes.

Course Goals

It is my hope that as a result of participating in this course, a student will:

- Understand core concepts of AI
- Be able to think critically about games, algorithms, and strategies
- Think across disciplines
- Learn core engineering techniques and principles
- Improve abilities at intellectual and academic discussions, including leading them

Course Calendar

Here is the planned calendar for the course. This is a very interactive class. I want students to get the most out of it that they can, and for it to be fun and engaging. This means that our schedule may shift significantly over the course of the semester. Readings and assignments may change – with significant notice in advance. The course website will be the official location of all course materials and assigned readings.

Date	Topic	Assigned Reading
August 28th	Welcome, Crossword Puzzles	None
September 4th	Wordle, Programming Tools	None
September 11th	Exploration and Exploitation: Chess, Checkers	Schaeffer et al., 2007 "Checkers is Solved"
September 18th	Go	TBA
September 25th	Large Language Models	Rush, 2018 "The Annotated Transformer"
October 2nd	Cards Against Humanity	TBA
October 9th	Guest Lecture by Dr. Ricky Mouser on Ethics	TBA
October 23rd	Werewolf/Mafia	Kano et al., 2024 "AIWolfDial 2024: Summary of the Natural Language Division of 6th International AIWolfContest"
October 30th	Pictionary and VLMs	TBA
November 6th	Jeopardy	TBA
November 13th	Poker and Sports	TBA
November 20th	Final Project Hackathon	None/Work on Final Project
December 4th	Wrapping up the class	None/Work on Final Project

Cheating

I take cheating very seriously – more serious than the majority of faculty here at Hopkins and expect students to adhere to the highest levels of academic integrity.

That being said, this is a class on AI and I want to see how creative students can get using AI. **You may use AI on any assignment in this class – just please note where you do so**. And please provide context (such as "I edited the output of ChatGPT", or "this is a verbatim transcript of my conversation using prompt X"). **Many of the tools, particularly programming ones, that I am encouraging you to use for this class WOULD BE CONSIDERED CHEATING IN OTHER COURSES**. Check with all other instructors before using some of the methods we will use here.

We will be playing games in this class. **Here, cheating is not allowed**. In lieu of cheating on assignments, my focus on integrity will be in regards to gameplay. Do not cheat.