



The City College  
of New York

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# CSC 59866-E: Senior Project I

## *AI Agents for Decision Making in the Real World*

By Saptarashmi Bandyopadhyay

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City College of New York and Graduate Center at the City University of New York

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## About Me

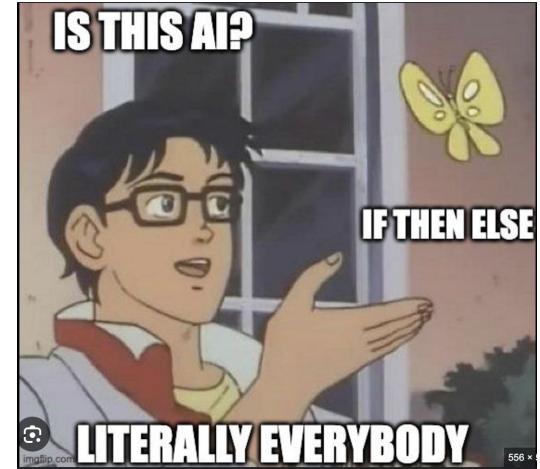
- PhD in Computer Science from the University of Maryland, College Park in Summer 2025
- Recent PhD Student Researcher at Google AI AR and Google DeepMind and as an AI Resident at Google X
- Lead PhD Researcher in a DoD LTS project
- Tenure-Track Assistant Professor of Computer Science at the City College of New York beginning Fall 2025



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## Research Interests

- AI Agents
  - Improving capabilities of AI Agents
    - Real World Applications in Climate Conservation, Supply Chain Orchestration, Multimodal Agents, LLM Agents, Recommender Systems, Economics, AI Privacy etc
- Distributed Training (we know it as Modern Distributed Computing)
- Multimodal Deep Learning
  - Interpretable Semantic Understanding across Image, Text, Video, Audio modes
- AI Alignment
  - Human-AI collaboration; Fixing Mistakes of Humans/other AI Agents; Explainable AI
- AI Agents Seminar Series: ([go.umd.edu/marl](http://go.umd.edu/marl))



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## About You

- What programming background do you have?
- What are you most excited to learn?
- What do you dream to do after graduation?
- What are your expectations from this course?



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## About this Course

- Over the course of a year, you will be designing and completing a research project on AI Agents with applications in the real world!
- Programming Language: Python
- We will be learning about relevant AI Agents concepts, including Multi-Agent AI and learning about good research practices that will be useful in your post-graduation career in graduate school or in the industry
- At the end of the semester you will be able to formulate and execute a research project relating to AI Agents in the real world.

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## How to Reach Me

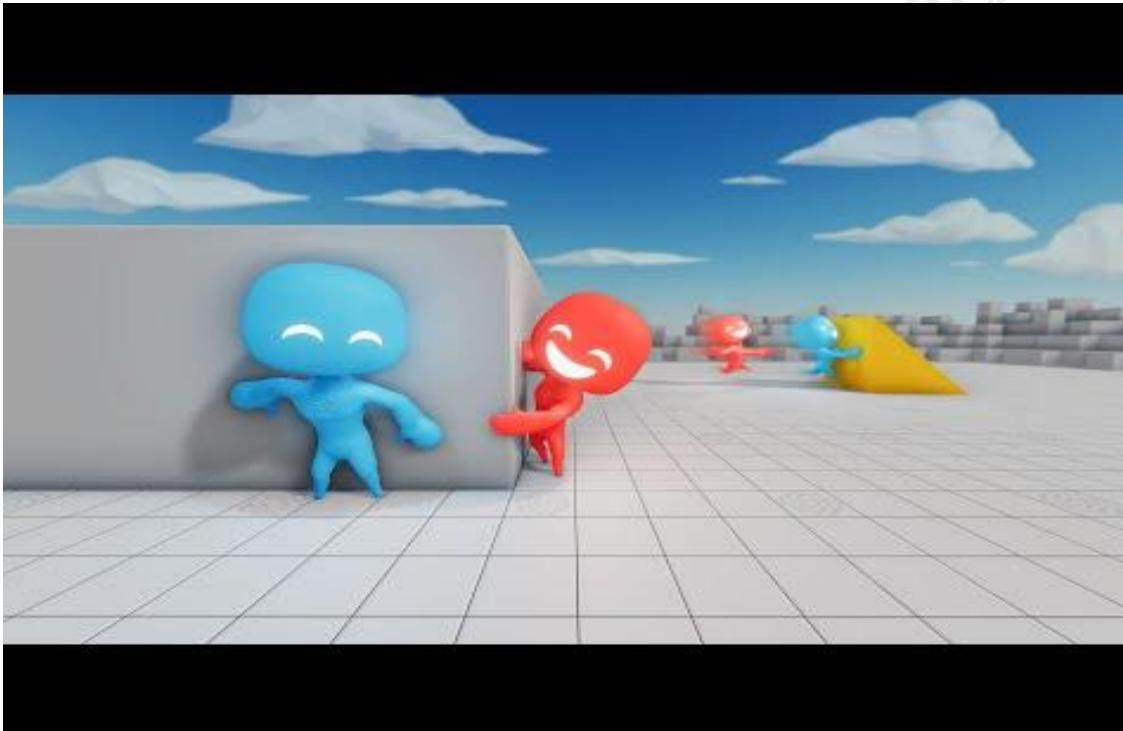
- Email: [sbandyopadhyay@ccny.cuny.edu](mailto:sbandyopadhyay@ccny.cuny.edu)
- Office: NAC 7/244 (Being set up by CUNY Facilities right now)
  - Temporary office in NAC 8/206 Chair's office
- Office Hours: Monday 4 to 5 pm in NAC 8/206 temporarily (by appointment via email or class)

# AI Agents: Overview and Applications

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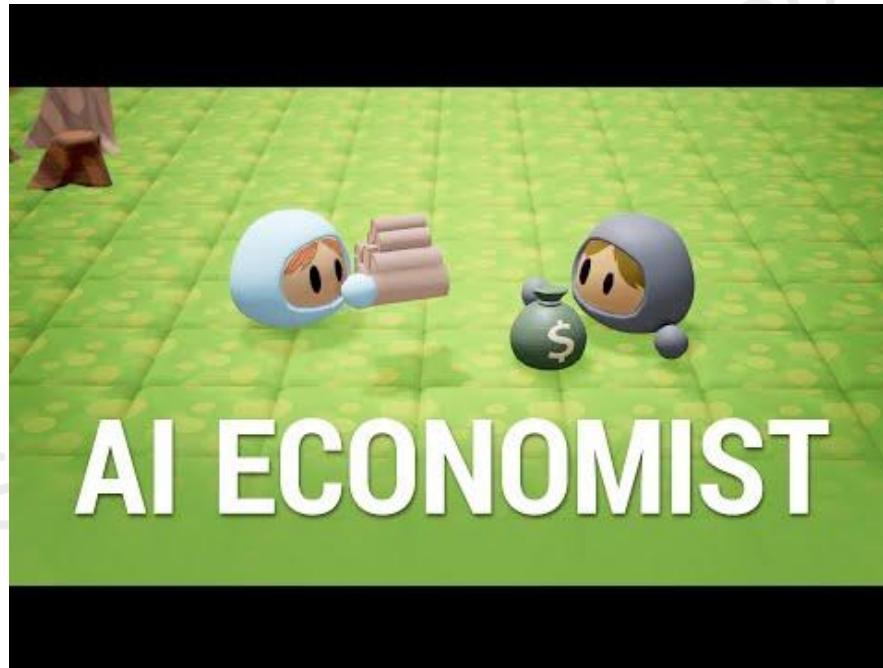
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## Multi-agent RL for Hide-and-Seek (OpenAI, 2019)



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## Tax Policy with Multi-agent RL (Zheng et. al, 2020)



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## When AI Agents Fail



Claude Code operated a vending machine.

It stocked it with tungsten cubes, live fish, and a playstation, losing hundreds of dollars!

AI Agents are still very much an open problem.

# Questions?

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Saptarashmi Bandyopadhyay