MIT **Minds & Machines** Hackathon

# EDUCATION CHALLENGE

## AI CLASSROOM & DEBATE COACH

### Introduction to the Challenge

How do we create classrooms that learn as much as their students do? In this challenge, we invite hackers to build AI-powered education tools that simulate, coach, and enhance real teaching and learning experiences. From adaptive classroom simulations to intelligent debate coaches, you'll create systems that model realistic educational interactions and help teachers and learners grow together.

Your goal is to design a platform that can either simulate a classroom of diverse students or act as a personalized AI coach. Imagine a multi-agent classroom simulator populated by LLM-driven student avatars — fast learners, ESL students, distracted students, or those dealing with emotional challenges — that respond differently to teaching styles. Educators could use it to test new approaches, receive feedback, and improve engagement.

Alternatively, you can build an AI Exam or Debate Coach — an agent that debates students, challenges their arguments, and provides structured feedback. Through argument mining, role-playing, and real-time critique, students can develop critical thinking and speaking skills in a safe, adaptive environment.
Both directions combine creativity, simulation, and pedagogy — and your prototype can bridge them. Can you design an AI teaching environment that doesn't just deliver content, but truly understands learners?

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## What we will provide

- 💠 Azure Credits for every team to use Azure OpenAI, Cognitive Services (Speech, Text Analytics), and Azure ML for model deployment.
- 👩‍💻 Mentorship sessions

## Implementation and Technology

We recommend leveraging the following Azure technologies (though you may adapt as needed):

- Azure OpenAI/AI Foundry for multi-agent persona simulation and response generation.
- Azure Speech-to-Text and Text-to-Speech for spoken interaction in classroom or debate settings.
- Azure Cognitive Services for emotion and sentiment analysis on classroom conversations (of the LLM models/agents).

Your focus should be on building a working, interactive prototype that demonstrates clear educational value — whether that's an adaptive teaching simulation or real-time debate/exam feedback.

## Judging Criteria

Projects will be judged based on:

1. **Innovativeness** – Original approach or technology used.
2. **Impact / Value** – Practical usefulness.
3. **Sustainability&Feasibility** – Viability or scalability.
4. **Prototype Quality** – Functionality, UX, and robustness. (highly relevant for grand prize)
5. **Presentation** – Clarity and storytelling of your demo. (highly relevant for grand prize)

## Additional Bonus Points:

- Effective use of Azure services and credits.
- Real-time performance feedback from AI agents.
- Inclusive design that supports diverse learner profiles.