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2026 USA-North America AI Olympiad Round 2 Successful Held at Harvard and MIT on April 4-6

04/07/2026

The USA AI Olympiad (USAAIO) successfully hosted the 2026 USA & North America AI Olympiad Round 2 from April 4 to April 6 at **Harvard University** and **Massachusetts Institute of Technology** in Boston and Cambridge, Massachusetts.

USAAIO selected nearly 200 top-performing students from Round 1 to advance to this highly competitive stage. Participants traveled from across the United States, Canada, and even other countries to Boston and Cambridge to compete in one of the most rigorous pre-college AI competitions in North America.

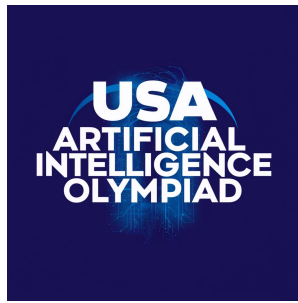
The three-day event combined academic enrichment, competition, and community engagement.

Day 0: Campus Experience and Admissions Programming (April 4)

On April 4, participants attended events organized by **MIT Admissions**, including an official information session and a guided campus tour. These activities provided students with valuable insights into academic life, research opportunities, and the admissions process at one of the world's leading institutions in science and technology.

Day 1: Plenary Talks and Competition (April 5)

On April 5, students gathered for the first day of competition along with a series of distinguished plenary talks.



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The plenary session featured:

- **Prof. Haribabu Arthanri from Harvard University** (Click [here](#) for the recording)
- **Prof. Michael Brenner from Harvard University and Google** (Click [here](#) for the recording)
- **Mr. Junlin Jiang from Yale and Pathway** (Click [here](#) for the recording)

These talks provided participants with insights into cutting-edge AI research and real-world applications, bridging academic theory and industry innovation.

Following the plenary session, students tackled two challenging problems:

- **Transformer Architecture & Linear Attention**
Students implemented linear attention mechanisms and relative positional encoding from scratch, then built Transformer models for classification tasks. Transformers are a foundational architecture in modern AI, powering advances across natural language processing, computer vision, and generative AI.
- **AI for Scientific Discovery (Inverse Physics Problem)**
Students used AI methods to solve an inverse problem: recovering both the location and governing formula of a source that generated a three-dimensional physical field. This problem highlighted the growing role of AI in scientific discovery and physical modeling.

Day 2: Advanced Challenges and Closing Session (April 6)

On the second competition day at MIT, students solved three additional problems:

- **Diffusion Models and Generative AI**
Students derived the loss function of diffusion models, demonstrating deep understanding



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of both forward noise processes and reverse denoising processes. Diffusion models are central to modern generative AI systems.

- **Semi-Supervised Image Classification**

Students classified images into three categories under strict constraints: only 20% of the data was labeled, and the use of pre-trained models (such as ResNet) was prohibited. This required strong understanding of semi-supervised learning and building convolutional neural networks entirely from scratch.

- **AI and Scientific Computing (Function Decomposition)**

Each dataset consisted of 500 data points generated from a mixture of four unknown functions. Students were required to infer both the functional forms and their parameters, combining machine learning with mathematical modeling and numerical reasoning.

Concluding Session and Future Outlook

At the end of Day 2, a concluding session was held for all contestants and parents (click [here](#) for the recording).

During this session, organizers:

- Presented a **recap of the history and growth of the USA AI Olympiad**, highlighting its mission to cultivate the next generation of AI talent
- Shared the **strategic vision and future development plan** of the Olympiad, including international engagement and expanded training opportunities
- Conducted a **comprehensive review of all contest problems**, explaining the motivation behind each problem design
- Discussed **key ideas and solution approaches**, offering participants deeper insights into how to tackle advanced AI and interdisciplinary challenges



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This session provided both reflection and forward-looking guidance, reinforcing the educational value of the competition beyond rankings.

Awards and Advancement

Based on Round 2 performance, USAAIO will determine Gold, Silver, and Bronze medalists, as well as select top-performing students as **campers**. These campers will be invited to the USA AI Olympiad Training Camp (Round 3), to be held in June at **Harvard University**.

Acknowledgments

The success of this event was made possible through the generous support of the following organizations who provided resources and gifts for participants:

- **Academia**

- [Harvard Medical School](#)
- [MIT Admissions](#)
- [Arthanari Lab](#)
- [MIT Mirchi](#)
- [Temple University, Fox School of Business](#)

- **Industry**

- [Beaver-Edge AI Institute](#)
- [Google](#)
- [Jane Street](#)
- [Pathway](#)
- [EasyFunCoding](#)
- [General Catalyst](#)
- [LateranAI](#)



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- [Non-Trivial](#)
- [applied37](#)
- [Ladder Internships](#)
- [Third Wheel](#)
- [Math and AI for Girls](#)

About USAAIO

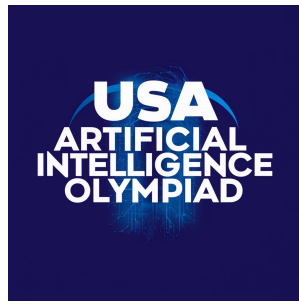
USAAIO is dedicated to

1. Organizing K-12 AI Olympiad contests.
2. Selecting, training, and sending Team USA for the international level Olympiads in AI, such as IOAI and IAIO.
3. Encouraging and educating K-12 students to gain knowledge of AI and develop skills in using and improving AI.



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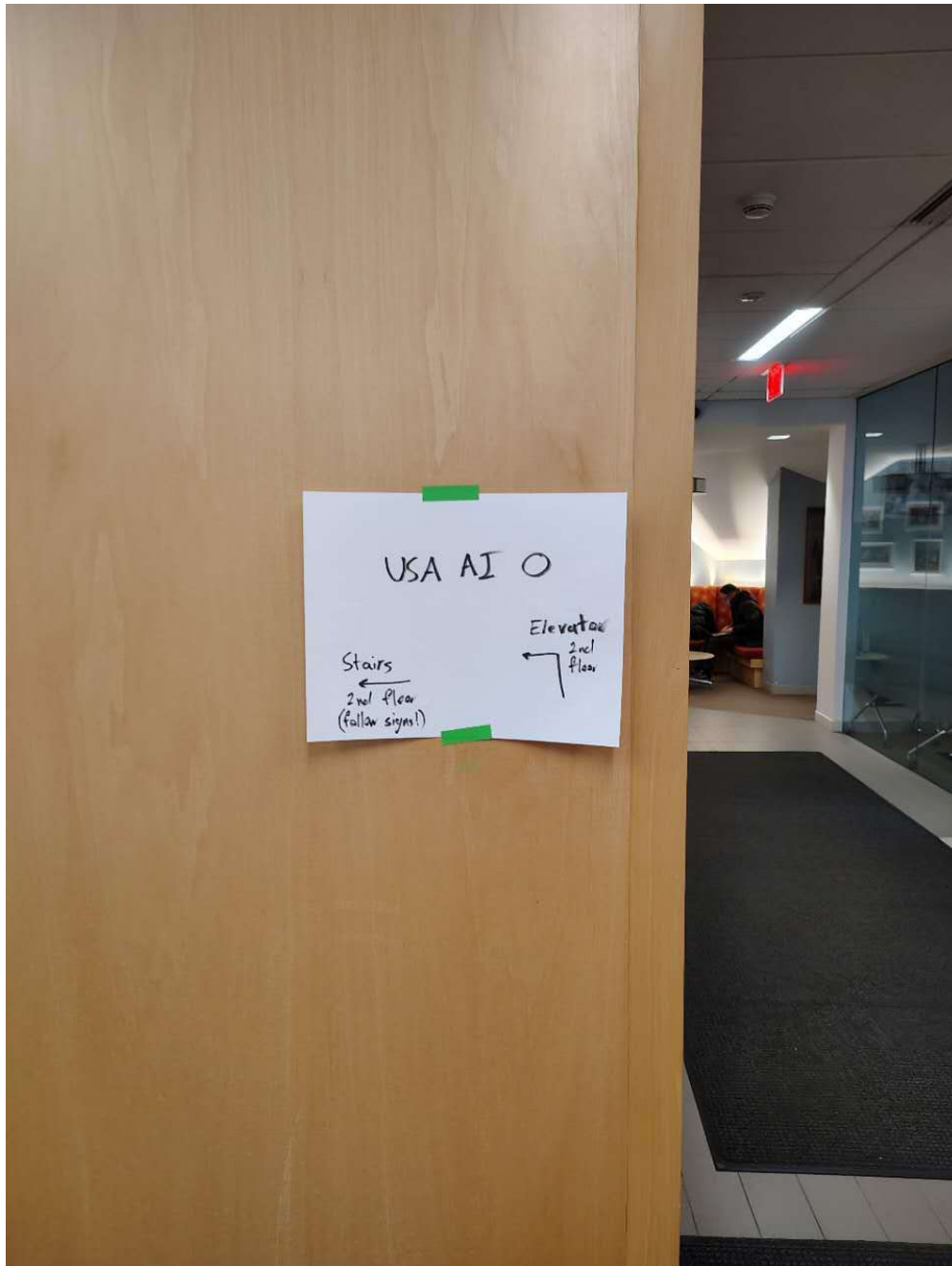


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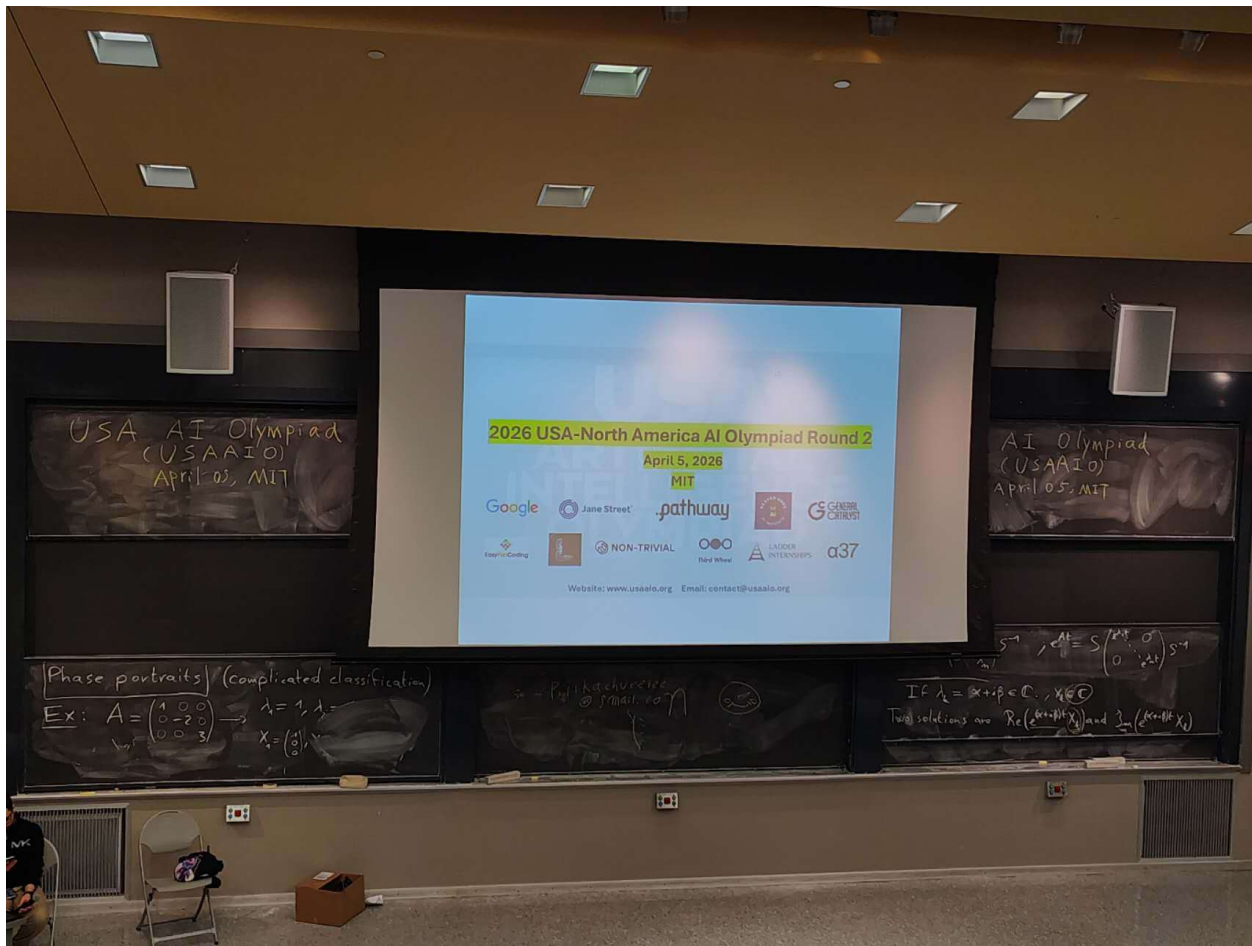


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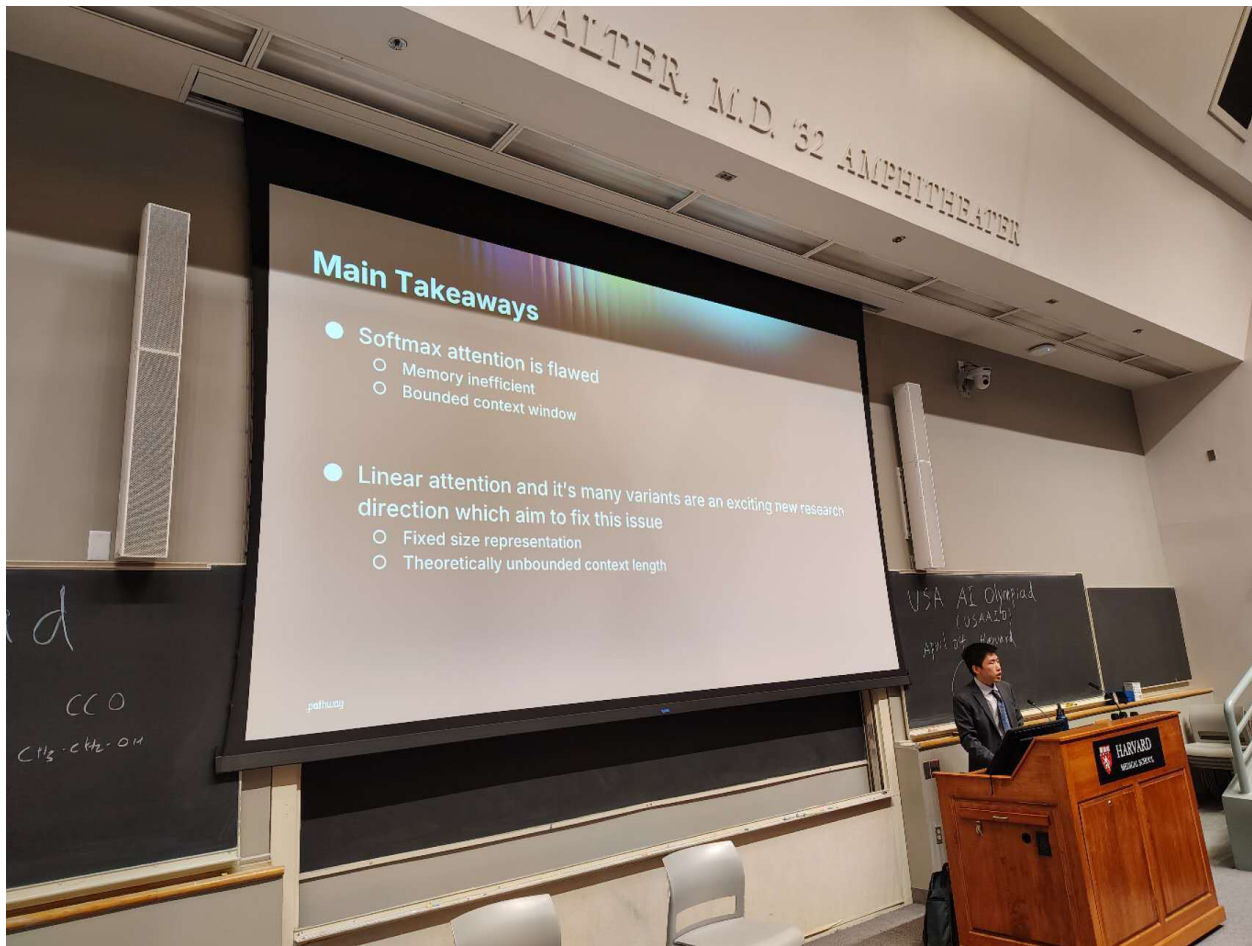


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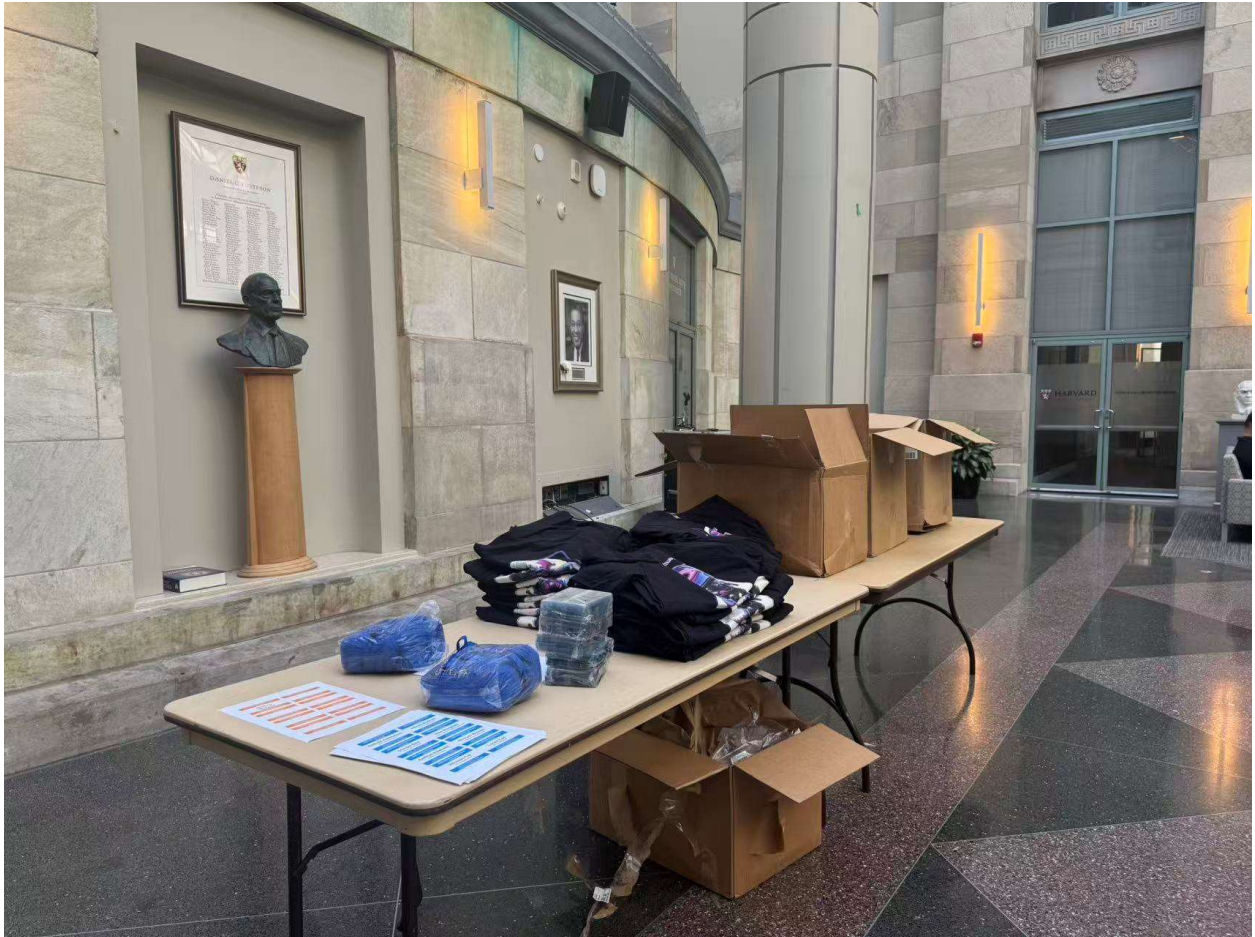


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