Mindy Zhang

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EDUCATION

Massachusetts Institute of Technology (MIT)
Cambridge, MA

Master's in Computer Science — June 2027

Bachelor of Science in Computer Science and Brain & Cognitive Science, Mathematics (Double Major)
June 2026

Coursework: Quantitative Methods for Natural Language Processing, Algorithms, Machine Learning, Computational Cognitive Science, Neural Computation, Linear Algebra, Probability, Statistics, Representation & Inference for AI, Info Theory

EXPERIENCE

Undergraduate Researcher | Learning and Intelligent Systems Lab | MIT | Cambridge, MA — *Mar 2025 - Present*

- Integrating vision-language models (VLMs) into planning for differentiable Task and Motion Planning systems (TAMPs)
- Developed and implemented differentiable cost functions generated from VLMs based on natural language and visual inputs using tensors (pytorch)
- Prototyped and validated small-scale tasks, e.g. object packing with spatial constraints, to test the VLM-driven planning pipeline before scaling to 3D real-world scenarios, working towards a publication

Machine Learning and Data Science Intern | Nasdaq | Boston, MA — *Jan 2025 - Feb 2025*

- Developed a proof of concept for an Over-the-Counter (OTC) settlement failure prediction model using bank data
- Built and trained a machine learning model with a recall rate of approximately 70%
- Deployed model on AWS EC2 for scalable computation and utilized AWS S3 for efficient data storage

Undergraduate Researcher | Computational Cognitive Science Lab | MIT | Cambridge, MA — *Nov 2023 - Dec 2024*

- Coding in Julia using probabilistic programming to model human cognitive behavior (e.g. moral judgment)
- Working knowledge of inference, integrating cognitive science concepts, and use of numerical and data libraries
- Implementation, development, optimization, and testing of computational models (Linear Regression, Probabilistic/Inference-based, etc.)
- Worked and communicated with lab team members to ensure well-written journal publication

Machine Learning Teaching Assistant | MIT | Cambridge, MA — *Sep 2025 - Present*

- Collaborating with other undergraduate students in MIT's 6.390 Machine Learning Course to strengthen their understanding of course material during office hours and lab, explain and reframe concepts to ensure effective problem-solving for students

PERSONAL PROJECT

Leveraging Input Representations to Improve LLM Reasoning on ARC Reasoning Puzzles — *Sep 2024 - Dec 2024*

- Implemented and tested various input representation strategies (grid representations, one-shot vs. zero-shot, helper functions) to evaluate LLM performance on ARC puzzles (generalization puzzles, considered benchmark for AGI)
- Built a custom evaluation pipeline (pixel accuracy, positional accuracy, progress metrics) to capture model outputs beyond binary correctness

LEADERSHIP

MITES Summer Residential Teaching Assistant - Calculus | MIT | Cambridge, MA — *Jun 2023 - Aug 2023*

- Extensive training and heavily strengthened communication skills, independence, and responsibility

- Led recitations, held office hours, and worked with instructor to ensure smooth classes
- Mentored a diverse group of students academically and socially, ~15 went on to attend MIT and Harvard

First Generation and Low Income Student (FLI) Committee | MIT | Cambridge, MA *Sep 2023 - Present*

- Executive co-leader for Community Outreach, involves working with MIT's FLI organization and exec team
- Hosting monthly gatherings to foster student connections & bringing ideas to life to better MIT experience for FLI students

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SKILLS

- Languages: English | Native, Mandarin | Intermediate proficiency
- Programming & Systems: Python (NumPy, pandas, PyTorch, matplotlib, scikit), JavaScript, MATLAB, Arduino C, Linux
- Data: Amazon Web Services (AWS), Power BI, Looker Studio, APIs, JSON, Git
- Interests: art & design, music, teaching & mentorship (academic and violin), ice skating, and building community