Vedang Lad

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Education

Massachusetts Institute of Technology **May 2024**
Master of Engineering in Electrical Engineering and Computer Science *Cambridge, MA*

Massachusetts Institute of Technology **May 2023**
Bachelor of Science in Electrical Engineering and Computer Science *Cambridge, MA*
Bachelor of Science in Physics *Cambridge, MA*

Relevant Coursework

- Deep Learning
- Computer Vision
- NLP
- Reinforcement Learning
- Algorithms
- Inference
- Quantum Information
- AI Safety and Values

Experience

Tegmark AI Safety Group **September 2023 – Present**
Research Assistant *Cambridge, MA*

- Researching interpretability of machine learning models under the guidance of Max Tegmark.
- Combining ideas from physics, neuroscience, and machine learning to better understand how neural networks work.
- Studying neural networks trained on toy-tasks for research in the sub-field of mechanistic interpretability.

Cleanlab **May 2022 – July 2023**
Machine Learning Engineer *San Francisco, CA*

- Developed novel ML algorithms for error detection to improve ML data quality and increase model reliability.
- Open-sourced error detection algorithms to the Cleanlab Github codebase (6900+ stars) for use by data scientists.
- First-authored an algorithm publication at the ICML 2023 DCAI Workshop. https://arxiv.org/abs/2307.05080

MIT Brain and Cognitive Sciences **December 2021 – June 2022**
Undergraduate Researcher *Cambridge, MA*

- Conducted research under the guidance of Joshua Tenenbaum, Dan Yamins, and Judith Fan to analyze the gap in intuitive physics between humans and novel computer vision models.
- Generated state-of-the-art physics simulations to train Graph Neural Networks for pixel-wise predictions.

MIT Kavli Institute with NASA NICER **May 2021 – January 2022**
Undergraduate Researcher *Cambridge, MA*

- Conducted time-series data analysis under Dheeraj Pasham to study black holes using the NASA telescope NICER.
- Implemented optimization algorithms for fitting models to energy spectra, to determine black hole composition.

Laser Interferometer Gravitational-Wave Observatory **December 2019 – September 2020**
Undergraduate Researcher *Cambridge, MA*

- Piloted a new time-series analysis method for LIGO infrastructure intended for low-latency data analysis.
- Presented the implementation to international members of the LIGO faculty.
- Presentation content later added to standard data analysis pipeline and currently provides real-time low latency analysis.

Technical Skills

Languages: Python, Java, JavaScript, Julia, HTML/CSS, C, Assembly, Mathematica, Matlab
Developer Tools: VS Code, Jupyter, Pytorch, Tensorflow, Docker, Github, ROS, React

Extracurricular

MIT Cross Country & Track and Field **August 2019 – Present**
NCAA Division III Athlete: 2x National Champion, 1x National Runner-Up

Plainsboro Rescue Squad **September 2015 – July 2023**
EMT: NJ certified EMT volunteering over 2500+ hours to local community.