

# Sadhana Lolla

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## EDUCATION

### Massachusetts Institute of Technology, Class of 2024

B.S. in Computer Science; GPA: 4.9/5.0

*Relevant Undergraduate Coursework:* Intro to ML, Probability & Random Variables, Design and Analysis of Algorithms, Interconnected Networks, Principles of Software Construction, Statistics, Seminar in Undergraduate Research

*Relevant Graduate Coursework:* Computer Vision, Natural Language Processing, Robotic Manipulation

Cambridge, MA

Sept 2020 - May 2024

### Poolesville High School, Class of 2020

Notable Awards: 2020 National Merit Finalist, 2020 Regeneron Scholar

Poolesville, MD

Sept 2016 - May 2020

## WORK EXPERIENCE

### MIT CSAIL | Distributed Robotics Group (Advisor: Daniela Rus)

*SuperUROP Scholar*

- Selected to participate in MIT's advanced undergraduate research opportunities program
- Developing universal controllers that unify the design and control loop when creating soft robots (composed of compliant linkages), which drastically reduces time taken to iterate over soft robot designs.
- Integrating debiasing methods over morphologies and controllers to increase diversity in training data and improve performance

Cambridge, MA

Aug 2022 - Present

### Themis AI (Advisor: Daniela Rus)

*Machine Learning Research Intern*

- Designed and developed a model-agnostic framework for risk awareness to diagnose uncertainty in ML models
- Developing new uncertainty estimation methods that outperform commonly used frameworks in speed and accuracy on benchmarks (**co first-author paper accepted by NeurIPS Robot Learning workshop, submitted to ICLR**)
- Demos presented to industry leaders, including the head of AI at BMW

Cambridge, MA

Aug 2022 - present

### Google | Search

*Software Engineering Intern*

- Improved content recommendation models on the Search Discovery team, to be used by all Google Search users
- Used Tensorflow to investigate the use of ordinal regression to improve prediction heads and enhance information given to ranking models
- Ran a Live Experiment that deployed ordinal models to 3% of all search users and found over 5% increase in user engagement
- Project to be fully launched shortly

Mountain View, CA

Summer 2022

### MIT CSAIL | Distributed Robotics Group (Advisor: Daniela Rus)

*Undergraduate Researcher*

- Created methods of automatic hard edge case detection using self-supervised techniques to be used with training autonomous vehicles
- Analyzed distribution of latent codes to develop methods of automatic sampling from underrepresented areas of the embedding space

Cambridge, MA

Winter 2021 - Spring 2021

### Google | Tensorflow Keras (Advisor: Francois Chollet)

*STEP Intern*

- Selected as one of the top 2% of applicants to Google's software engineering internship program for rising sophomores and juniors
- Created an automated tuners for hyperparameters in Parameter Server Strategy
- Developed timed callbacks: an alternative to traditional callbacks that executes ops on different threads and increases efficiency of PSS
- Achieved a 79% increase in throughput and 63% decrease in total training time on a crucial internal canary pipeline

Mountain View, CA

Summer 2021

### Decisive Analytics/Whitney, Bradley & Brown Inc.

*Machine Learning Intern*

- Designed and implemented novel deep learning methods using Python (Tensorflow) for base security systems to detect and classify unknown threats from live footage with an accuracy rate of over 90%
- Presented final product to the Vice President and other executives; currently deployed at the Wright-Patterson Air Force Base in Ohio

Arlington, VA

Summer 2020

### The George Washington University (Advisor: Murray Loew)

*Machine Learning Intern in the Medical Imaging and Image Analysis Laboratory*

- Developed a novel detection method for automatic localization tumors in Breast IR Images using a Faster R-CNN using MATLAB with an extremely high sensitivity of 91% that is forty times cheaper than mammography
- Won 1st place at the 2020 National Junior Science and Humanities Symposium in the Math/CS Category

Washington, D.C.

Summer 2019

## LEADERSHIP EXPERIENCE

### xFair

*Director (2021 - 2022), Member (2020 - 2021)*

- Led a team of fifteen as the director of the largest student-run career fair at MIT
- Responsible for organizing logistics, contacting sponsors, onboarding new members, and publicizing the fair

Cambridge, MA

Aug 2020 - Mar 2022

## SKILLS & INTERESTS

**Skills:** Python (Pytorch, Tensorflow), MATLAB, Java, HTML, Bash, p5.js, Linux, Arduino, Raspbian