

# Aayush Gupta

410 Memorial Drive: 432D, Cambridge, MA 02139

## EDUCATION



**MIT**

Class of 2021, 5.0 GPA  
Computer Science Major



**Saratoga High School**

Class of 2018  
High Honors

## WORK EXPERIENCE

### Scale AI Intern (2019)

Used Node.js, React, MongoDB, SQL, Python to determine connected components to detect consensus on 2D image classification

Used Typescript to alter bonus incentive structures to increase accuracy of LIDAR review classification, decreasing errors by 8% over first two weeks of deployment

### Securiti.ai Winter Intern (2019)

Explored the possibility of using convolutional neural networks in natural language processing applications with Google Colab and Pytorch

### Auto-LaTeX Equations Founder (2015-19)

**Over 100,000 weekly users , 4.0+ star rating.**

Coded and branded own Google Docs add-on for LaTeX equations

Marketed to professors and admins with cold emails to adopt for education

### Neuralpets.io Developer at Hack Lodge (2019)

Led team of 5 to build webapp on React and Node.js to gamify training unlabeled data through public cookie clicker type AI-based classification

### Founder/President of Saratoga High IoT Club (2016-18)

Attained \$5000 funding from Micron foundation by cold emails

Taught with Arduinos to engage kids in laser tag, game bots, theremins

### Taught A-Star USA Computing Olympiad Camp (2017)

Managed classroom of ~20 A-Star USACO Silver students

Built in-home grading system for adversarial bots on final

## CONFERENCE PAPERS

### A Decision-theoretic Approach to Detection-based Target Search with a Drone (2017)

**Accepted** at 2017 IEEE/RSJ International Conf. on Intelligent Robots and Systems (IROS)

Used Julia, SARSOP, and Python with reinforcement learning with partially observable

Markov decision processes to find targets 3.3x faster than heuristics. Led team of 3.

### Dynamic Pricing via Reinforcement Learning for Multi-Objective Ridesharing Optimization (2017)

**Accepted** to BayLearn 2017

Used Julia, SARSOP, and Python with reinforcement learning to produce a Pareto curve to reduce passenger wait time while increasing company profit.

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[linkedin.com/in/aayushgupta0](https://linkedin.com/in/aayushgupta0)

## AWARDS

### USA Computing Olympiad

#### National Camp Finalist (2016)

Chosen as top 28 pre-collegiate competitive programmers to compete for spot on USA team. Mastered algorithms such as dynamic programming, binary trees, recursion, & shortest path with C++.

### Putnam Top 500 Math

#### Undergrads (2018)

### USA Junior Math Olympiad

#### Qualifier (2016)

Selected as top 200 out of over 70,000 precollegiate students to compete for spot at national camp.

### USA Physics Olympiad Silver Medal

#### (2017)

Recognized as top 150 precollegiate physics students in the USA.

### North American Computational

#### Linguistics Olympiad Finalist

#### (2016)

Recognized as top 50 in USA to compete for national team.

## PROJECTS

### Synthesizing CT images from MRI images with Generative Adversarial Networks (GANs) (2017)

Created realistic CT images from MRIs with cycle consistent neural nets.

1st Place 2018 Synopsys Science Fair

## SKILLS

C++, Python, Java, JavaScript, React.js, Node.js, PyTorch, Firebase, MongoDB, SQL

Data Science, Math, Research, Algorithms, Neural Networks

## MIT CS COURSEWORK

6.890 [Graduate Deep Learning for Algorithms](#)

6.036 [Machine Learning](#)

6.840 Theory of Computation

6.438: Algorithms for Inference

6.860: Statistical Learning Theory

6.046 [Advanced Algorithms](#)

6.041 [Probability](#)

6.004 [Computation Structures](#)

6.03 EECS for Medical Devices