

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

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.

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

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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 (5.0 GPA)

Current:

6.867: [Graduate Machine Learning](#)

6.438: [Algorithms for Inference](#)

9.66 [Computational Cognitive Science](#)

Past:

6.890 [Deep Learning for Algorithms](#)

6.036 [Machine Learning](#)

6.046 [Advanced Algorithms](#)

6.041 [Probability](#)

6.004 [Computation Structures](#)