

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) ([arXiv](#))

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

Improved rescue finding time by 3.3x compared to heuristics with reinforcement learning, modeled as a partially observable Markov decision process.

Used Julia, SARSOP, and Python to build and test on custom built drone. Led team of 3.

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

Accepted to BayLearn 2017

Showed 12% profit increase by optimally lengthening average wait time by only 2.3%.

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

WORK EXPERIENCE

Scale AI Intern (2019)

Used Node.js, React, MongoDB, SQL, Python for connected component detection of labelers to construct 95% confidence intervals on bounding box labels

Decreased labeling errors by 8% for remote LIDAR quality assurance by altering bonus incentive structures with Typescript (over first two weeks)

Securiti.ai Winter Intern (2019)

Implemented custom dilated convolutional neural networks for 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

Synthesizing CT images from MRIs with GANs (2017)

1st Place 2018 Synopsys Science Fair

Improved mean average error by 20% compared to state of the art for creating realistic CT scans from MRIs with Generative Adversarial Neural Networks.

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

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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.

SKILLS

C++, Python, JavaScript/TypeScript, React.js, Node.js, PyTorch, Java, 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

6.03 EECS for [Medical Devices](#)