Aayush Gupta

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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 with Daniel Bessonov and Patrick Li to divide tasks.

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.

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, recursion, shortest path, and binary trees 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)
Used cycle consistent adversarial neural networks to create CT images from MRIs with state of the art accuracy.
1st Place 2018 Synopsys Science Fair

SKILLS

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

Data Science, Math, Research, Algorithms, Neural Networks

MIT EECS COURSEWORK

6.004 Computation Structures
6.036 Machine Learning
6.046 Advanced Algorithms
6.041 Probability
6.890 Deep Learning for Algorithms
6.03 EECS for Medical Devices