Michael Truell

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EDUCATION

Computer Science and Mathematics, MIT, Cambridge, MA — Class of 2022
· Courses by Jun '19: advanced algorithms, analysis, linear algebra, probability, simple chip design

Horace Mann School, Bronx, NY — Class of 2018
· 4.0 Unscaled GPA

EXPERIENCE

IBM Research, *Research Intern*, — January 2019 - February 2019
· Working on improving state representation for planning problems using Variational Autoencoders

Two Sigma Investments, *Software Engineering Intern*, — June 2018 - August 2018
· Returning developer on Halite; worked on web experience, new game, software tooling
· Explored machine-learning-oriented game verification, using Deep RL & Conv Nets
· Gave talks at Google NEXT and the CSTA conference

MIT Probabilistic Computing Lab, *Research Intern*, RSI Scholar — June 2017 - August 2017
· Added data processing capabilities to the BayesDB research project.
· Merged a low level C++ backend engine into the Python API of Bayeslite.
· Used Bayesian nonparametric models to improve diabetic patient care.

Two Sigma Investments, *Software Engineering Intern*, — June 2016 - March 2017
· Co-founded Two Sigma's "Halite" online programming competition (https://halite.io).
· Engineered the competition backend and website, using LAMP, AWS, Bash, Python, Docker.
· Contributed to the C++11 game engine, starter packages, PixiJS replay visualization, etc.
· Drew 7,000+ users, 60,000+ bots, and 70+ OSS contributors, project is central to TS's recruiting.

Independent Reinforcement Learning Researcher — June 2015 - May 2016
· Augmented the Q-learning algorithm with novel action and model selection.
· Algorithm required 4x less data than standard reinforcement learning.
· Project recognized by NASA, CERN, Intel. Spun off codebase into popular OSS library.

AWARDS & HONORS

ACM/CSTA Cutler-Bell Prize: 10k Scholarship
Intel ISEF Grand Award: Second Award in Robotics and Intelligent Machines
Intel ISEF Special Award: Second Award, National Aeronautics and Space Administration (NASA)
Intel ISEF Special Award: First Award, CERN (award included a week at the CERN campus)
New York City Science and Engineering Fair (NYCSEF): First Prize in Computer Science
Intel Excellence in Computer Science Award
American Computer Science League National Competition: Perfect Programming Score

RELEVANT ACTIVITIES

Cascade: Teach a high school computer science class, covers FSAs, Graph Theory, MDPs — 2018 - Present
Sloan Business Club: Study and practice finance, entrepreneurship, consulting — 2018 - Present
Undergrad Research: Will work in the Broad on continuous molecular representations — 2018 - Present
Co-captain of Robotics Team, Competition Programming League, & Programming Club — 2015 - 2018

TALKS & PAPERS

Truell, M./Spector, B., Kenyon, E., and Clapauch, J. (2018). *The Halite AI Competition in Google Cloud.*
Truell, M./Spector, B. (2017). *The Design and Implementation of Modern Online Programming Competitions.*
Truell, M., Gruenstein, J. (2016). *A Universal Robot Control System Using RL with Limited Feedback.*

SKILLS

Software	Python, Java, C++, PHP, JS, HTML, Angular, LAMP, Flask, Docker
Hardware	OpenSCAD, AVR, ESP8266, NI
Machine Learning	Reinforcement Learning, Deep Supervised Learning, Evolutionary Methods
Mathematics	Linear Algebra, Discrete Math, Multivariate Calculus