Evan Tey

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Education

Massachusetts Institute of Technology

M. Eng. in Computer Science – 5.0/5.0 — May 2020

B.S. in Physics and Computer Science – 4.7/5.0 — June 2019

Research

Generative Models for Stellar Spectra – *Researcher, MIT* — Mar '19 – May '20

- Implemented and experimented with variational autoencoders and flow-based networks as stellar spectra models for my Master's thesis

Bayesian Modeling of Supernovae – *Researcher, Imperial College London* — Summer '18

- Developed and tested a hierarchical Bayesian model for selection effects in supernovae lightcurves to better infer parameters about our universe

NuSTAR X-Ray Analysis of the Galactic Center – *Researcher, MIT* — Sep '17 – Jun '18

- Analyzed high energy spectra near the Galactic Center to characterize and constrain dark matter candidates with Python, Sherpa, and HEAsoft software

MIT Office of Open Learning – *Data Science Researcher* — Jun '17 – Jan '18

- Prepared a student feedback tool for instructors to experiment on how various feedback impacts student behavior with Flask and Google BigQuery

Mathworks at Texas State University – *Research Assistant* — Summer '14

- Characterized negativity in hypergraph structure to enhance our understanding of deficiencies in neural / social / magnetic networks

Work

Kensho – *Part-Time Software Engineer* — Spring '19

- Laid the foundation for estimating database query costs under Kensho's GraphQL compiler using database statistics

Project Invent – *Winter Extern* — Jan '19

- Worked at an early-stage non-profit to bring invention education to teachers and students across the country
- Contributed to program design, strategy meetings, and fundraising development

Indeed – *Software Engineer Intern* — Summer '16

- Created a predictive data-driven decision-making system to increase SEO acquisition for job result pages with Java, Hadoop, Pig Latin, and Git

Teaching

MIT Undergraduate Mathematics for Computer Science – *Graduate TA* — Sep '19 – May '20

- Ran weekly office hours and interactive recitations on discrete mathematics

MIT Spokes – *Organizer & Participant* — Summer '19

- Biked across the country and taught STEM workshops at local schools / libraries with seven other MIT students

Educational Studies Program – *Admin* — Feb '16 – Jun '19

- Organized programs for middle/high schoolers to take classes from MIT students
- Directed Splash (over 2000 students, 500 teachers, 40 admins)
- Taught classes on astronomy, statistical mechanics, algorithms, and more

Undergraduate Math Department – *Peer Tutor* — Feb '16 – Dec '17

- Tutored MIT undergraduates in single- and multi-variable calculus, differential equations, and linear algebra for 4 hours a week

MIT Undergraduate Electricity & Magnetism – *Undergraduate TA* — Spring '17

- Coached MIT undergraduates through physics problems for 5 hours a week

Mathworks at Texas State University – *Honors Summer Math Camp Counselor* Summer '15

- Counseled a group of four high school students in Combinatorics and Real Analysis
- Ran additional review sessions and assisted a Mathematica class
- Worked with 15 other counselors to maintain a nurturing camp environment

AP Computer Science – *TA* Aug '13 – May '14

- Assisted AP Computer Science students during class by creating worksheets and helping students learn how to debug programs

Scratch Camp – *Cofounder* Spring '13

- Designed and ran a camp to stimulate computer science interest in Pearce Middle School students

Projects

Educational Telescope with VR Spring '18

- Building a real 10" f/5 Dobsonian telescope with additional sensors and a screen to emulate telescope usage for use on cloudy nights

Consensus Spring '16

- Used the design process to lead a team of six in creating a live classroom tool that reduces confusion between students and teachers
- Interviewed teachers, then prototyped and tested several features before developing a simple webapp to track users, questions, and confusion in the classroom

Align Spring '16

- Constructed a device to detect bad posture and give haptic feedback with flex sensors and an Arduino in a team of six

Concrete Convolutional Neural Network Cryptosystem Fall '16

- Replicated and extended Google Brain's paper *Learning to Protect Communications with Adversarial Neural Cryptography* with a team of three

3D Scanner Fall '16

- Built a 3D laser scanner to generate and display a point cloud from an object using an FPGA
- Rendered and allowed interaction with the point cloud through VGA output

Pygmy ProSet Fall '15

- Created a live multiplayer version of the card game ProSet with NodeJS, socket.io, and JQuery

LASA UIL Study Site Fall '14

- Developed a quizzing website to help novice CS students learn general programming principles
- Parsed PDFs of computer science tests to a question database using MongoDB, Javascript, NodeJS, Jade, and JQuery

Awards

Larry G. Benedict Leadership Award – *MIT Awards Convocation Awardee* Spring '19

- Recognized for showing dedication for empowering my fellow students to develop as leaders

8th Int'l Olympiad on Astronomy and Astrophysics – *Honorable Mention* Aug '14

- Represented the USA in theory, observation, and data analysis exams over ten days in Romania

Skills

Hard: Python, Jupyter, Numpy, Pandas, Tensorflow, Git, Javascript, Node, Java, Linux
Soft: Leadership, Data Science, Design Thinking, Rapid Prototyping
Interests: Stargazing, Education, Soccer, Food