Julie Vaughn

Data Science @ MIT

Data science for a more equitable and healthy world.

(858) 519-7723 | juliev@mit.edu | web.mit.edu/juliev/www/ | juliev42 | julie-vaughn

Education

Massachusetts Institute of Technology — *Boston, MA*

Master of Engineering in Artificial Intelligence — *Sept. 2019 - May 2021*

B.S. in Computer Science and Electrical Engineering, Minor in Biomedical Engineering — *Sept. 2016 - May 2020*

Coursework Highlights: Machine Learning for Healthcare (6.871), Healthcare Ventures (HST.978), Algorithms for Inference (6.438), Machine Learning (6.036), Artificial Intelligence (6.034), Computational Cognitive Science (6.804), Probabilistic Programming (6.885), Computational Physiology (6.022), Cellular Neurophysiology (6.021), Neurological Disease (9.24), Gender and Public Health (WGS.151), Internet Policy (6.805), Statistics (18.650), Probability (6.041), Living Machines

Skills

Technical Python (Numpy, SKLearn, Jupyter, TensorFlow), Matlab, Arduino, Machine Learning, Probabilistic Programming, Microsoft Office

Non-Technical Leadership, Teamwork, Teaching, Public Speaking, Design Thinking, Event Planning, Advocacy, Writing, Singing/Songwriting

Experience

Centaur Labs (Y Combinator Startup) — *Boston, MA*

Data Science Intern — *May 2019 - Aug. 2019*

- Developed algorithms to combine human wisdom of the crowd and AI in image-based medical diagnostics. Created reports with insights into user behaviors through data analysis in Python. Started the company blog.

Philips Research North America — *Cambridge, MA*

Clinical Analytics Research Intern — *May 2018 - Aug. 2018*

- Developed machine vision algorithms with 3D camera data to help monitor paralyzed patients. Made a prototype of a monitoring application in Matlab. Work is patent-pending and was presented at the IEEE EMBC 2019 conference.

Machine Learning @ MIT — *Boston, MA*

Machine Learning Course Assistant (6.036) — *Spring 2019, Spring 2020 semesters*

- Helped students learn machine learning in Python by answering questions and checking for understanding.

Projects

How to Reduce Bias in Medical AI — *Boston, MA*

Student Researcher — *Sept. 2019 - Current*

- Researched the effect of bias in diagnostic AI systems. Drafted a set of policy recommendations (chiefly to the NIH and FDA) to reduce different types of bias.
- Invited speaker at Women in Data Science @ Silicon Valley and ACM CHIL 2020 (Spotlight Presentation)
- Currently researching bias in medicine from a causal inference perspective in the Szolovits (MEDG) lab at CSAIL

Hand Rehabilitation Therapy System — *New Delhi, India*

MIT Sandbox Innovation 2.5K Grant Recipient — *July 2017 - June 2018*

- Co-designed a therapy service to help stroke victims regain mobility in their hands. Developed an Arduino-based glove capable of tracking common therapy exercises. Learned about market research, entrepreneurship, and healthcare in India.
- Currently developing a similar project involving music-based rehabilitation.