John Flynn

jmflynn@mit.edu | github: xflynx25| Loudoun, VA -> Cambridge, MA

Education

Massachusetts Institute of Technology **Cambridge, MA**

- B.S. in **Electrical Engineering & Computer Science** Sep 2019 - Jun 2023
- B.S. in **Physics**

Notable Coursework

CS: Programming, Algorithms, Data Structures, ML, Underactuated Robotics (G), Computer Vision (G), Security (G)
EE: Circuits, Signals, Inference, Feedback Control (G), Embedded Systems, Microcontrollers, Devices
Physics: I, II, III, Materials, Relativity, Statistical, Quantum, Experimental **Math:** Probability, Statistics, Discrete, Cryptography (G)

Relevant Experience

Ulaanbaatar Heating Initiative, NEET CSS + NUM **MIT & Ulaanbaatar, Mongolia**
Anthro-Engineering Group Sep 2022 – Jun 2023

- Anthro-Engineering Fall course + January Fieldwork in Mongolia + Spring design work
- Applied anthropological tools to complex engineering problem of heating, considering full life-cycle of product
- Design/Analysis of sensor data, new heating technology, supply logistics. Ethnographic Research, Stakeholder Involvement

RespiQ – Breath-Tech Startup **Leiden, Netherlands**
Algorithmic & Experimental Engineering Intern Jun 2022 – Aug 2022

- Created from scratch data processing pipeline and associated software
- Invented statistical metrics for quantifying progress of prototype development
- Contributed in design meetings for furthering the physical and algorithmic development of the system
- Took on many roles in small technical team (testing & debugging prototype, meeting w. suppliers/consultants, logistics)

Resilient Infrastructure Networks Lab, MIT CEE **Remote**
Researcher in Semiparametric Transportation Modelling Jun 2020 – Oct 2020

- Studied transportation networks near the Bay Bridge, with respect to an accident on 5/29/19
- Created various ML models to predict accident behavior
- Explored how time/day, amount of information, and time lag affect the transportation mode choice
- Quantified inefficiency of the system due to imperfect information

Crusoe Energy Systems **Brooklyn, New York**
Software Engineer / Data Scientist Jan 2020 – Feb 2020

- Wrote queries for data metrics, worked on front end display
- Research on company emissions, presented strategy for record keeping to CEO, produced internal report

Projects

Python Personal Project **Remote**
Fantasy Premier League AI August 2020 – June 2021 (primarily, but still maintained)

- Wrote full-stack, fully automated bot (Data Management, APIs, ML, Search/Decision, Web Scraping, Forms, UI) ~10k lines
- Nearly passes the Turing Test, although bolder than most humans

Class Project Footage: https://www.youtube.com/channel/UCjZKFsU9tO_N3cvgNNdNYRA/videos

Leadership

MIT Varsity Soccer Player **Cambridge, Massachusetts**
Attacking Center Midfielder Aug 2019 – Jun 2023

- All-Newmac (All-Conference) Team, (2022: 1st, 2021: 2nd), 10/5/22 MIT Athlete of the Week
- High School Captain, State Champion, Made All-State and Washington Post Teams

Teaching / Mentoring **Multiple Locations**
Math/Physics Aug 2017 – Jul 2022

- Co-Taught class on Puzzles & History of Mathematics of our own design to 30+ students in *Splash 2019*
- Tutored Math/Physics to a variety of learners ages 6-18, focusing on developmental approach
- Fraternity Scholarship Chair – Designed systems for collaboration, helped orient freshmen

Skills and Interests

Technical (software): Python, C/C++, Assembly, Bash, SQL, Pytorch, Web (React), Matlab, Mathematica, Go
Technical (other): Latex, Office, Oscilloscope, Circuits, Music Processing, Solidworks, LTspice, PSoC Creator, GIS
Chess: Self-Taught, repeat champion in my section of the World Open (1st/82 in 2018, 1st/165 in 2019)
MIT Laptop Ensemble: perform music through live coding and synthesizer performances
N.E.E.T. Climate and Sustainability Thread (NEET CSS) – Design Oriented Engineering Program