Rohan Patel
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Languages/Technologies Python, R, Java, PyTorch, NumPy, AWS, snakemake, SQL, Linux CLI
Soft Skills Public Speaking, Collaboration, Leadership, Organization

Work Experience

BlueSphere Bio **Pittsburgh, PA**
Bioinformatics Intern (35 hrs/wk, 385 total) 06/2022-09/2022
- Developed a new prediction pipeline to identify neoantigens (killer T-cell targets) in aberrantly expressed long-noncoding RNA using ML; doubled count of potential targets to 2k (joint project with another intern, wrote ~60% of ~0.8 KLOC of Python)
- Prototyped iRankExpress, a set of tools for ranking neoantigens (Python, ~0.4 KLOC)

MindTrace Technologies **REMOTE**
Software Development Intern (20 hrs/wk, 220 total) 05/2021-08/2022
- Added video/audio processing capabilities to StrongView, a software system which tests patients' cognitive abilities during surgery (Java, ~0.4 KLOC)

Lee Lab, Center for the Neural Basis of Cognition, CMU **Pittsburgh, PA**
Undergraduate Researcher (8 hrs/wk, 120 total) 06/2021-11/2021
- Implemented a system to reconstruct original images (poor quality) from primate V1 cortex scans, using Gabor-filter linear regression (MATLAB, ~0.5 KLOC)

Education

Carnegie Mellon University **Pittsburgh, PA**
B.S. Neuroscience w/ Computational track, B.S. Statistics & Machine Learning 08/2019-05/2023
- GPA 3.65/4.00
- Courses: Intro to Machine Learning, Advanced Data Analysis, Neural Signal Processing, Intro to Quant. Genetic Analysis, Modern Regression, Algos & Adv. Data Structures, Neural Computation

West Windsor-Plainsboro High School North **Plainsboro, NJ**
GPA: 4.26/4.00 09/2016-06/2019
- SAT 1570/1600; ACT 35/36; AP Biology (5), CompSci A (5), Calculus BC (5), Spanish Lang (5)
- Captain of Fencing team (~640 hours total), VP of Genomics Club (~200 hours total)

Leadership

Tartan Neurotechnology Club
Vice President (5 hrs/wk, 250 total) 01/2022-present
- Co-founder and executive board member of the CMU neurotechnology club
- External liaison and coordinator for club entry in 2022 NeuroTechX international student club hackathon: EEG-Enhanced Painting Software (Python, 40 hours)
- Led student teams to design & implement hands-free painting software, using ML to decode SSVEP brain signals and increase accessibility for motor-impaired users

Carnegie Mellon University Rowing Club
Fundraising Chair (3 hrs/wk, 150 total) 01/2021-12/2021
- Led crowdfunding campaign ($7K) through creative use of digital marketing, organized fundraising events to support club activities
- Rowed ~3 years, bow seat in 2/4/8 shells, compete in local regattas (~12 hrs/wk, ~900 total)

Interests and Projects

- Favorite Books: *The Computer and the Brain*, *Extreme Ownership, Shoe Dog, Atomic Habits*
- *Attention-Based Speech Recognition* (Python, 1,689 LOC, 30 hours) [course project] Built an end-to-end speech recognition system using attention mechanisms, implementing the transformer architecture to enable accurate speech transcription on the LibriSpeech dataset