Orion Bloomfield

Software Engineer and Student Researcher
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Education

Brown University — Providence, RI
- *Bachelor of Science in Computer Science* — Sep. 2020 - May 2024
  Concurrent Masters of Science in Computer Science — **GPA**: 3.90/4
  - **Related Coursework**: Accelerated Intro to CS, Deep Learning, Software Engineering, Organic Chemistry, Computational Molecular Bio., Blockchains and Cryptocurrencies, Honors Statistical Inference, Honors Linear Algebra
- **Phillips Exeter Academy** — Exeter, NH
  Four-Year Diploma. Cum Laude — Sep. 2016 - Jun 2020

Experience

Care New England — Providence, RI
- *Dr. Uzun's Genomics and Machine Intelligence Lab* — August 2021 - Present
  Research Assistant — Full Stack: **Java, SQL, Typescript, JavaScript, React**
  - Actively innovating on a protein-protein interaction analytics framework that is already used by hundreds of researchers.
  - Implemented server-side analysis optimizations which save research scientists in the PPI field hours of computation.
  - Building an interactive web application that generates multi-layer graph networks from protein-protein interaction data with various analytic frameworks - *proteinarium.brown.edu*
- **Ladd Observatory** — Providence, RI
  Observatory Assistant and Telescope Operator — August 2021 - Present
  - Lead group observatory viewing sessions, operating multiple sets of telescope equipment.
  - Designing new website for the observatory - *website coming soon!*
- **Pensos Summer Academy** — New York, NY
  Technology Lead, Instructor — June 2021 - Present
  - Built lesson plans and taught 6 weeks of virtual coursework on *Cryptography, Game Theory* to students aged 13-15.
  - Provided free summer classes for over 100 students from underprivileged neighborhoods of NYC during the pandemic.
  - One of 13 semifinalists in NYU's 2021-22 Entrepreneurs Challenge cohort. Finals round results TBD.
- **Frutor LLC** — Montgomery, NJ
  Online Tutor — July 2020 - Present
  - Tutoring high school level Biology, Chemistry, Computer Science, general test-prep, and college essay writing
- **Stanford University School of Medicine** — Stanford, CA
  Dr. Seung Kim's Developmental Biology Lab — July 2019 - August 2019
  Summer Research Intern — Lab Skills: **DNA Prep, PCR, iPCR, IHC, BLAST, Fly Dissection**
  - Utilized iPCR protocols to determine the location and orientation of novel p-element insertions in *Drosophila*
  - Created software to aid in the systematic analysis of PCR reads and expression data.
  - Taught rotating high school biology teachers the basics of fly pushing and how to adopt it in a classroom setting.

Projects

CounterPointer *Spring 2021* - Classical counterpoint checker and generator service for music theory students. Frontend Lead.
Full Stack: **Java, Typescript, JavaScript, React**

peaCTF *Summer 2019, 2020* - Founded capture-the-flag style web competition for aspiring cybersecurity students. Over 2,000 unique high school participants across the globe. Designed the website. Led problem-writing team.
Full Stack: **C, MongoDB, Python, Flask, React**

BrunoCoin *Summer 2021* - Stencil code for fully-functional Bitcoin-like token, BrunoCoin.
Language Used: **Golang**

Leadership

Brown Puzzle Club - *Founder* *August 2021 - Present* - Organize meetings and events, leading discussions on self-made or curated online word and logic puzzles. Coordinate team writing puzzles for upcoming "Brown Puzzle Hunt." Lead meetings and collaboration of executive team. Lead website and puzzle platform development.

The Higher Keys - *Business Manager* *August 2021 - Present* - Brown's oldest all-gender acapella group. Coordinate and plan local gigs with student activities, other groups, and campus safety, as well as touring gigs with the venues associated. Handle funds and reimbursements. Maintain the website.

PEA Puzzle Hunts - *Director* *Spring 2020, Summer 2020, Spring 2021* - Executive director for the design and logistics teams for my high school's annual puzzle competition. Over COVID, Attracted over 4,000 unique visitors (*students and alums*) to the site – a tenfold increase to the event's regular publicity. Maintained the website.

Skills

Languages and Technology: Java, Javascript, Typescript, R, Python, Machine Learning, Tensorflow, Numpy, Golang, C++, SQL, Docker, React, Git, Decentralized Networks, DeFi, Cryptography, Cybersecurity, Unit Testing
Scientific: Proteomics and general 'Omics data, PCR and iPCR Protocols, IHC Staining and Spectroscopy, BLAST Analysis, Gel Electrophoresis
Design: LaTeX, Photoshop, Adobe Premiere
Miscellaneous: Puzzle Competitons, Teaching and Tutoring, Choral Signing