Orion Bloomfield

Software Engineer and Computational Biologist
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Education

Brown University   Providence, RI
- *Bachelor of Science in Computer Science*   *Sep. 2020 - May 2024*
  Bachelor of Science in Applied Math-Biology   **GPA**: 3.83/4
  - **Related Coursework**: Accelerated Intro to CS, Computational Molecular Biology, Deep Learning, Software Engineering, Organic Chemistry, Blockchains and Cryptocurrencies, Advanced Statistical Inference
- **Phillips Exeter Academy**   Exeter, NH
  Four-Year Diploma   *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 - *website coming soon!*
- **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
  Cofounder, 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.
- **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++, SQL, JavaScript, React**

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

Rabble Rooms Virtual Escape Rooms *Fall 2020 - Summer 2021* - For-profit virtual escape room startup, generated 1,500 dollars in profit running events for universities. Awarded 6,000 dollars in NYU Entrepreneurial Institute Startup Sprint, 1 of 13 teams chosen from applicant pool of 160. Only undergraduate team admitted. Awarded Harold Grinspoon entrepreneurial spirit award

PEA Puzzle Hunts *Spring 2020, Summer 2020, Spring 2021* - Directed the design, preparation, 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. Designed and maintain 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