Jules Bertholet

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Education

B.S. Computer Science (Data Science Track) + Cell Biology and Genetics Expected May 2024
University of Maryland College Park, MD
Dean's List all semesters **Current GPA: 3.809**
Member of the Life Sciences Honors College Citation Expected May 2024
Relevant Coursework: Algorithms, Data Science, Machine Learning, Statistics, Compilers
President's Scholarship: Full-tuition merit scholarship

Technical Skills

- **Programming:** JavaScript, Python, R, Rust, TypeScript, HTML, C, Bash, MATLAB, Java, Haskell, OCaml, PHP, Racket, Ruby, SQL, Docker, Windows and Linux operating systems, Unix command line, Git source control, HPC
- Experience contributing to open-source software
- **Languages:** English and French (native speaker), Spanish (advanced level)

Technical Internships

Institute for Bioscience and Biotechnology Research Shady Grove, MD
Research Intern *June-August 2022*

- Maintained and updated database of T-cell receptors and structural models
- Modernized frontend code, redeployed in new environment
- Also modernized data analysis pipeline to predict structures of mutant proteins

Scientific and Statistical Computing Core, National Institute of Mental Health Bethesda, MD
Research Intern *September 2019-March 2020*

- Compared different methods for analyzing fMRI data with the AFNI software package
- Assembled a reproducible data analysis pipeline using Python, Bash, and HPC cluster
- Developed a user interface with Python and Qt to present results visually

My French Classes Bethesda, MD
Intern *Summer 2017 and 2018*

- Developed attendance management software for a school of around 400 students
- Designed entire system including frontend, backend, and integration with external APIs
- Also worked as administrative assistant

Open-Source Passion Projects

`unsized-vec` github.com/Jules-Bertholet/unsized-vec

- Implemented a novel generic datastructure as a library in a systems programming language
- Closely managed memory allocation and memory layout for optimal resource usage
- Exposed idiomatic and flexible API that encapsulates implementation details

`decimalfp-rs` github.com/Jules-Bertholet/decimalfp-rs

- Developed bindings to a third-party mathematical library written in a different language
- Exposed a low-level API allowing for fine control, and a high-level user-friendly API

Honors and Awards

- **Perfect SAT score (1600/1600)**
- National Merit finalist