

# Paul L. Biberstein

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[linkedin.com/in/paulbib](https://www.linkedin.com/in/paulbib) – [paulbiberstein.me](http://paulbiberstein.me) – [github.com/p-bibs](https://github.com/p-bibs)

## Education

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**Brown University** – Providence, RI

*Expected Graduation: May 2023*

- **Concentration:** Computer Science & Mathematics
- **Relevant Coursework:** Computer Systems, Programming Languages, Compilers, Computer Vision, Logic for Systems, Computer Graphics, Networks, Electric Circuits & Signals, Graph Theory, Abstract Algebra, Computers & Music, Seminar in Electronic Music: Real-Time Systems, Theory and Teaching of Problem Solving

## Programming Languages

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- Python, Javascript (React), C, Rust, Racket, MATLAB, CSS, HTML, Dart (Flutter), Bash, Java, Lua

## Software Engineering Experience

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**Undergraduate Researcher** – Brown U. Programming Languages Team

*Providence, RI – Summer 2021*

- Developed and tested a webapp to help bring introductory data science to the middle and high school level
- Designed platform for "what-if" data analysis and immutable data transformations that is accessible to students
- Prototyped and iterated design with educator feedback
- Built webapp collaboratively with a team of 3 using the React framework and Git for version control

**Full-Stack Web Development Intern** – MedRhythms

*Portland, ME – Summer 2020*

- Worked on agile team of 4 for a digital therapeutics company that uses sensors, music & software to build evidence-based, neurologic interventions to measure & improve walking for post-stroke recovery
- Created internal webapp for music metadata retrieval to speed up human-validated metadata retrieval by 5x
- Redesigned UI/UX for webapp to expand user base to non-developers
- Migrated project to new tech stack for faster development: React & Django with Docker for deployment

**Web Development Intern** – Maine Dept. Health & Human Services

*Augusta, ME – Summer 2019*

- Wrote web-crawling script to audit website for deprecated or non-ADA-compliant code
- Built script to scan for pages reporting status code 404 & worked with team to resolve

**Sample Personal Projects** – [github.com/P-bibs](https://github.com/P-bibs)

**Skiff** – gradually-typed, functional programming language

*Summer 2021*

- Designed and implemented an interpreter and web editor in Rust for a functional programming language featuring pattern matching, type inference, algebraic data types, and first-class functions, [skiff.paulbiberstein.me](http://skiff.paulbiberstein.me)

**Mix Capsule** – full-stack web application:

*Summer 2020*

- Engineered webapp using React & Django to create personalized Spotify playlists, including authentication, data persistence & hosting on self-configured Apache web server, [mixcapsule.paulbiberstein.me](http://mixcapsule.paulbiberstein.me)

**ML-ChordGen** – machine learning:

*Winter 2019 – Spring 2019*

- Pre-processed data & trained a recurrent neural network to generate chord progressions
- Wrote web frontend & hosted on personal webserver, [chordgen.paulbiberstein.me](http://chordgen.paulbiberstein.me)

## Leadership & Communication Experience

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**Undergraduate Teaching Assistant** – Brown University Computer Science Department

Design and Implementation of Programming Languages

*Fall 2021*

- As head TA, hire staff, run TA training, grade & write assignments, hold weekly office hours

Compilers and Program Analysis

*Spring 2021*

Accelerated Introduction to Computer Science

*Fall 2020*

**Freelance Curriculum Designer** – Meridian Stories (non-profit)

*Summer 2019*

- Authored 3 multiweek curricular plans for local teachers to integrate STEM & 21<sup>st</sup> century media skills

**Parade Organizer/Canvass Leader** – Mills for Governor 2018

*Summer 2018 – Fall 2018*

- Traveled state coordinating local volunteers for candidate's parade presence and going door-to-door polling voters

## Skills & Interests

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**Technologies:** React, Django, Apache, Node.js, Docker, CI/CD, Unix, Git, TCP/IP, REST, JSON, CAD, Arduino, Raspberry Pi, Front-end, WASM

**Interests:** Music (theory, performance, writing), photography, skiing, cross country running  
Swiss & US Citizen