

Max Heller

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Education

Brown University

Providence, RI

Sc.B. IN COMPUTER SCIENCE · 4.0 GPA

Expected December 2022

- **CS Coursework:** Distributed Systems · Computer Networks · Operating Systems · Formal Methods · Programming Languages
- **Math Coursework:** Discrete Math · Advanced Deductive Logic · Probability and Statistics · Linear Algebra · Information Theory

Experience

The D. E. Shaw Group · 🌐

New York, NY

SYSTEMS TECHNOLOGIST INTERN

May – Dec. 2020

- Developing a Kerberos Credential Manager in **Rust** to improve security firm-wide by moving user secrets off-disk and into memory, drastically reducing the number of machines with direct access to user secrets, and facilitating more precise access control
- Developed a library to ease communication with SRV-located services by caching DNS lookups and intelligently selecting targets based on history
- Planned and led three hour-long **Rust** trainings for ~50 full-time engineers and interns

Brown PLT (Programming Languages Team)

Providence, RI

UNDERGRADUATE RESEARCH ASSISTANT

Dec. 2018 – Jan. 2019, June – Aug. 2019

- Developed web-based educational tools for enhancing student understanding of data structures through example construction
- Designed assignments using our tools for a Brown computer science course of 20+ students
- Listed author on a paper published in ACM ICER 2020 analyzing and extending our work

NYS Office of Information Technology Services

Albany, NY

STUDENT ASSISTANT

July – Aug. 2018

- Built tools to ease submission of specimen to NYS DOH labs for testing by generating messages in the HL7 standard from spreadsheets

Projects

CDCL SAT Solver · 🌐

Developed a conflict-driven clause learning satisfiability solver in **Rust** implementing watched literals, VSIDS, and Luby-based restarts

TCP/IP · 📄

Implemented a TCP/IP stack in **Rust** on top of UDP as a group project for CSCI 1680: Computer Networks

Weenix (OS Kernel) · 📄

Built a kernel in **C** with a scheduler, TTY driver, file system (S5FS), and virtual memory for CSCI 1690: Operating Systems Lab

Shell Command Alias Generator · 🌐

Developed a command line tool in **Rust** that suggests shell commands to alias based on usage

Brown Critical Review · 🌐

Developed a Chrome extension in **TypeScript** to integrate Brown University's student-run course evaluation system and course catalog

Activities

Brown Running Club, MEET DIRECTOR

- Directed 400+ runner track meet, negotiated timing service offers for 250+ runner XC meet, organized 5k race for RI collegiate running clubs

Teaching

CS126: Compilers and Program Analysis, HEAD TA (SPRING 2021)

CS19: Accelerated Intro. to Computer Science, TA (FALL 2019) & HEAD TA (FALL 2020)

- Hired and trained staff of 13 TAs, developed and managed autograding infrastructure, held conceptual and lab hours, graded student assignments

CS22: Discrete Structures and Probability, TA (SPRING 2020)

- Wrote and graded homework problems, held office hours and recitation

Skills

Rust · Go · Python · TypeScript · C · SQL · Git · AWS · GCP · Alloy Analyzer