Morgan Rae Reschenberg

I'm a graduating senior studying Computer Science and STEM Education at UC Berkeley as a Regents' and Chancellor's scholar. I am passionate about computer architecture, computer systems, and making the CS community inclusive and accessible to all. Check out my website for my complete project portfolio and extended resume.

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EDUCATION

UC Berkeley, Berkeley CA — *Computer Science, STEM Education*

August 2015 - May 2019

EXPERIENCE

Mozilla, Firefox Layout Team — *Platform Rendering Intern*

MAY 2018 - AUGUST 2018

Implemented CSS Containment (contain:size, layout) for Firefox (Gecko) in C++ and Rust. Responded promptly to code review feedback, wrote and shared web platform tests to ensure compatibility among browser vendors, and presented final work to Mozilla employees and interns worldwide. A video of my intern presentation is available on my website.

UC Berkeley, Computer Architecture and Machine Structures — *uGSI (Prev. Lab Assistant, Tutor)*

JUNE 2017 - PRESENT

Instructed undergrad students in material covering C, MIPS, RISC-V, caches, virtual memory, CPU design, distributed computing, and more. Weekly, created lecture/discussion content and review material. Wrote exam questions, held office hours, and communicated regularly with course staff and professors. Compiled statistics on struggling students and held 1:1 meetings to increase student success.

UC Berkeley, Regents' and Chancellor's Scholars Association — *Web Development Committee Coordinator (Prev. Member)*

AUGUST 2015 - PRESENT

Mentored a team of 13 undergraduate students in WebDev through the development and maintenance of RCSA.berkeley.edu. Managed student and event data through SQLite, and Django, guided front-end development using HTML, CSS, JavaScript, and Bootstrap.

PROJECTS

RISC-V RSort — *RSort in Vectorised (and Optimised!) Assembly*

As part of a challenge assignment for my Computer Architecture Engineering class, I implemented RSort using vector-extension instructions for RISC-V. I also optimised the program using scatter/gather memory ops, chunking and stripmining, loop unrolling, and vector masking.

Gitlet — *Mini Version Control System*

Constructed as part of my data structures course, this git-like version control system was written in Java from scratch and mimics git's own hash-based storage system. Functionality includes local add, commit, remove, and reset operations and remote branch, merge, and conflict-detection.

PROGRAMMING LANGUAGES AND SKILLS

Java, C, C++, Python, MIPS, RISC-V, HTML, CSS, Unix, Git, Hg (Mercurial)

AWARDS AND HONOURS

Regents' and Chancellor's Scholar Awarded 2015 to the top 0.2% of freshman applicants to UC Berkeley

Dean's List Honors Awarded 2016, 2017, 2018 to students with a GPA in the top 4% of L&S Undergraduates

CURRENT AND COMPLETED COURSES

Operating Systems and Systems Programming

Programming Languages and Compilers

Introduction to the Internet: Architecture and Protocols

Computer Architecture Engineering

Computer Architecture and Machine Structures

Databases

Computer Security

Efficient Algorithms and Intractable Problems

Data Structures and Programming Methodology

Designing Information Devices and Systems