

# Austin R. Pahl

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## EDUCATION

### University of Colorado Boulder, CO

August 2018-present

Ph.D. Computer Science (ongoing)

GPA: 3.914/4.0

Faculty Advisor: Prof. Eric Rozner (ericrozner.com)

Honors:

Dean's Summer Research Fellowship: Awarded to help kick-start research in areas of need

### Honors College, University of South Carolina, Columbia, SC

May 2017

B.S. Computer Science

GPA: 3.978/4.0

Thesis: Google Street View as a Medium for Social Gaming

Honors:

Magellan Grant: University-sponsored fund to support student research

Carolina Scholarship: Top merit-based scholarship for students at University of South Carolina

Phi Beta Kappa Membership: Prestigious national honor society

## RESEARCH EXPERIENCE

### University of Colorado Boulder, CO

August 2018-present

PhD Researcher

Investigating problems in areas including virtualization and emerging cloud streaming platforms like Google Stadia and CloudMosa's Puffin OS.

### CableLabs, Louisville, CO

May 2019-August 2019

Research Intern

- Explored a project potentially valuable to CableLabs' members including Charter and Comcast
- Proposed a complete system architecture that addresses requirements and scales in a datacenter
- Implemented a proof-of-concept of the system and demoed the system to the CableLabs CTO
- Gave weekly update presentations to supervisors while mostly working independently
- Documented the system comprehensively in the code and in a separate Gitlab wiki
- Pitched potential improvements to the system that may be investigated soon as research (ongoing)

### USC Center for Digital Humanities, Columbia, SC

January 2016-December 2016

Research Assistant

- Developed an iOS app in Swift that presents the history of a local community
- Received \$3,000 under the Magellan Grant to work on the app with another student
- Built a Django server that exchanges content with the app via JSON formatted data
- Designed a SQLite database through Django to support media and historical data presented in the app
- Continued technical support to the faculty advisors and students after finishing project contributions

May 2016-August 2016

**Sandia National Laboratory, Albuquerque, NM**

Research Intern

- Contributed to a high performance parallel design application in C++
- Participated, together with 8 team members, in a variation of the Scrum (Agile) development methodology
- Collaborated closely with academic researchers to convert theory to implementation
- Pushed code to a Git repository shared across the enterprise by teams working on the larger software suite
- Ran massively parallel jobs for laboratory staff using our team's software

**WORK EXPERIENCE****FAST Enterprises, Nashville, TN**

July 2017-July 2018

Implementation Consultant

- Worked as a developer and consultant at the Tennessee Department of Revenue
- Rolled out a software update that improved efficiency and extended functionality of TNDOR tax systems
- Provided post-rollout code fixes and desk-side support to call center staff
- Gathered requirements from SMEs to meet client's needs for the tax processing software
- Cooperated with teammates to ensure product was delivered on time and on budget
- Presented a technical brown bag talk to staff on a new internal tool recently launched by FAST

**The Boeing Company, St. Louis, MO**

May 2015-August 2015

Programmer Analyst Intern

- Produced a new version of an internal Java Struts application for data visualization
- Applied object-oriented design principles to a large legacy codebase in Java 6
- Restructured the backend to support more customers without impacting deployment costs
- Translated design documents from management into a functional system
- Wrote unit tests for existing and new code using the JUnit framework

**ACADEMIC SPEAKING ENGAGEMENTS**

Gave a talk explaining the *Ward One* project at UNRH 2017 at Washington & Lee University. We discussed the historical research and interviews conducted to compile content, as well as the design and implementation of an app to present the information.

Dao, S., Pahl, A., & Harris-Lowe, B. (2017, January 21). *Ward One*. Speech presented at Undergraduate Network for Research in the Humanities (UNRH) Conference at Washington & Lee University, Lexington, VA.

Presented a poster detailing the implementation of the *Ward One* iOS app and web database at USC's Discovery Day, an event that showcased research, scholarship, and leadership from University of South Carolina students across the state.

Dao, S., & Pahl, A. (2016, April 22). *Enhancing Interactor Experience in the Ward One App*. Poster presented at Discovery Day at University of South Carolina, Columbia, SC.

## TEACHING EXPERIENCE

### Department of Computer Science, University of Colorado Boulder, CO

Fall 2018, Spring 2019

Teaching Assistant, Computer Systems

- Taught a weekly recitation for 43 students majoring or minoring in Computer Science
- Introduced tools and concepts relating to computer architecture and help apply them on assignments
- Conducted 1-on-1 interviews with students to assess their knowledge and communication skills
- Tracked students' progress and work with them to identify and address weaknesses
- Received an Outstanding Teaching Assistant Award for performance as a systems TA

## AWARDS

### Outstanding Teaching Assistant Award (CU Boulder, 2019)

Received due to work as a teaching assistant during Fall 2018 and Spring 2019 semesters

### Dean's Summer Research Fellowship (CU Boulder, 2018)

Awarded to help kick-start research in areas of need

### Phi Beta Kappa Membership (University of South Carolina, 2016)

Prestigious national honor society

### Magellan Grant (University of South Carolina, 2015)

University-sponsored fund to support student research

### Carolina Scholarship (University of South Carolina, 2013)

Top merit-based scholarship for students at the University of South Carolina

## COURSE PROJECTS

### CU Boulder

#### Spring 2019 Network Systems

- Built Prompt, a system that coordinates nearby devices to detect and prevent redundant computations

#### Fall 2018 Datacenter Scale Computing

- Implemented and benchmarked convolutional neural network training on AWS Lambda

#### Fall 2018 High Performance Scientific Computing

- Wrote an analysis of policies for determining checkpoint frequencies in long-running compute jobs

### University of South Carolina

#### Fall 2016-Spring 2017 Capstone Project

- Built *safehouse*, a game of tag in Google Street View

#### Fall 2016 Web Scraping

- Built a website recommendation system that crawls the web to gather text from sites and construct a MinHash LSH Forest for recommending websites similar to an input url.

## SKILLS & INTERESTS

Tools: Git, Bash, Docker, cgroups/namespaces, Make, CMake, Ninja, Latex

Programming: C/C++, Linux Kernel, Embedded Android, Java/Kotlin, Python

Business: Scrum/Agile, consulting (requirement gathering, product demos, rollout/production support)

Operating Systems: Windows/macOS/Linux

Spoken languages: Basic Spanish & Mandarin