

# JACK ROPER

E-Mail: [jackroper18@gmail.com](mailto:jackroper18@gmail.com) Site: [jackroper.info](http://jackroper.info) • Phone: 720.635.4618

Enrolled in UT Austin Computer Science (3.67 GPA), "Turing" Computer Science Honors Program

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## PERSONAL PROJECTS

### Asynchronous C Extensions (C) 2019

- Created a C preprocessor and library that allowed for asynchronous execution of functions and event-based programming.
- Learned about managing concurrency, locks, and about how complex the C specification is.

### Self-Hosted Media Servers (Various) 2019

- Used an old laptop to self-host multiple services within Docker containers, while using a reverse proxy to access said services remotely. Services included a media streaming server, auto-piracy server, ebook library, and a personal website.
- Learned about managing multiple processes running in the same machine, and about Docker.

### Web Crawler and Search Engine (Java) 2018

- Crawled websites and indexed important data about sites in order to implement a custom search and similarity search engine using cosine similarity and some approximate similarity methods.
- Learned to manage very large amounts of data, and to optimize large programs

### Computer Algebra System (Java) 2016-17

- A system to solving equations by saving them as symbol trees and then manipulating them to solve equations symbolically and without losing any precision to rounding error. Capable of solving and simplifying complex equations.
- Learned how to create and manage a large project, and how to properly test code via. Unit testing.

## AWARDS AND CERTIFICATIONS

### Best Student Created Project: Rose-Hulman Institute of Technology's "Operation Catapult" 2017

- "Best Project" award out of 40+ projects with 4-man teams after a 3-week engineering competition. Programmed microcontrollers for project.

### AWS Certified Developer Associate: February 2019

- Certified as proficient developer of AWS services and technologies
- Validate at [aws.amazon.com/verification](https://aws.amazon.com/verification) with validation code GHEJCW22L2Q4QGK3

## ACTIVITIES

### CU STEAM Crew 2016-2017

- Teacher's assistant in programming classes for students K-8 at CU Boulder. In charge of mentoring kids better understand programming concepts taught in classes.

### Information Systems Security Society 2018+

- Member of ISSS Club at UT Austin. Participated in all bi-weekly cybersecurity competitions and attended cybersecurity talks and lectures

## EDUCATION

**Previous Coursework:** Discrete Math, Data Structures, Prob. and Statistics, Systems and Architecture, Linear Algebra

**Current Coursework:** Operating Systems, Number Theory

## SKILLS

**Proficient In:** Java, Kotlin

**Familiar With:** C, C++, JS

**Exposure To:** Python, Swift

**Technologies Used:** Git/Github, TTD, AWS, Docker

**Interests:** Fantasy and Sci-Fi Books and Comics, Baking, Dungeons and Dragons