

Pranav Raghavan

SOFTWARE ENGINEER · BACKEND DEVELOPER · SYSTEMS DEVELOPER · EMBEDDED SYSTEMS DEVELOPER

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Summary

I'm graduating with a Masters in Computer Science in March, 2021. I'm interested in full time positions and internships in Software Development.

Skills

Proficient in: Python, C, C++, Linux/Unix, Bash, PostgreSQL, Git.

Experience with: Javascript, Node.JS, Java, Haskell, Go, Rust, Docker, PyTest, ORM (SQLAlchemy), MySQL, SQLite.

Education

University of California, Santa Cruz

Santa Cruz, CA

M.S. IN COMPUTER SCIENCE

September 2019 - March 2021

Graduate Coursework: Analysis of Algorithms, Computer Networks, Computer Communication (protocols), Programming Languages, Advanced Operating Systems, Machine Learning, Computer Graphics*.

University of California, Santa Cruz

Santa Cruz, CA

B.S. IN TECHNOLOGY AND INFORMATION MANAGEMENT

September 2015 - June 2019

Undergrad Coursework: Applied Discrete Math, Computer Systems and Assembly Language, Data Structures, Algorithms and Abstract Data Types, Computer Architecture, Advanced Programming, Natural Language Processing, Database Systems, Computer Networks.

Experience

Juniper Networks

Sunnyvale, CA

INTERN M SOFTWARE ENGINEERING

June 2020 - September 2020

- Interned with the Platform-Interfaces team at Juniper Networks and contributed to the Junos Evolution operating system running on the MX series routers/switches.
- Added a command that checks for platform dependent and independent faults at the FPC, PIC, port and channel level causing a channel to be in "link-down" state where no data is being transmitted through it (example remote or local mac faults).
- Helped operators resolve link down issues in the field by suggesting possible reasons for the fault in the link and prompted some remedies for the faults through the command.

Riptide IO

Bangalore, India

SOFTWARE ENGINEERING INTERN

June 2019 - September 2019

- Used open source software TTY bus to create a tool to debug field issues by capturing MSTP protocol network packets.
- Built a periodic database backup service and its accompanying REST API interface and unit tests.

Riptide IO

Santa Barbara, CA

SOFTWARE ENGINEERING INTERN

June 2016 - September 2016

- Migrated Docker microservices to an updated Ubuntu base container.
- Wrote unit tests for existing time modules using PyTest Framework.
- Built a feature to detect changes in configurations using hashing along with REST API and unit tests.

Projects

Multithreaded Distributed Password Cracker

CLASS PROJECT

- Used C++ Standard Template Library for multithreading, cryptography and using TCP and UDP packets.
- Built a multithreaded password cracker to brute force passwords across 24 cores.
- Built a distributed multithreaded solution to span across 4 CPUs with similar configuration. (96 cores total)

Multithreading Language Comparison (https://github.com/pranav97/compare_lang)

RESEARCH PROJECT

- Built a matrix multiplier in the most popular languages for multi-threading: C, C++, Go and Rust.
- Compared the different solutions in terms of the tools available, syntax as well as the raw speed.
- Built a testing suite and compared the different languages for various input sizes.

An Analysis of Collision Resolution Techniques in QSSA

RESEARCH PROJECT

- Built a protocol called QSSA that incorporates the best features of Aloha-QS and CSMA.
- Reduced the join times of nodes using different conflict resolution techniques to decrease latency.
- Used a C++ based discrete-event network simulator called NS3 for building and testing the protocol.