Krutarth Rao

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Education

Purdue University — **West Lafayette, IN**
Bachelor of Science in Computer Science, Software Engineering and Security — *Expected Graduation: May 2018*

Minor: Economics
GPA: 3.84/4.00

Relevant Skills and Coursework

Go, C/C++, Python, Java, Discrete structures, Computer Architecture, Systems Programming, Software Engineering, Software Testing, Operating Systems, Embedded Systems, Computer Security, Cryptography, Scientific Presentation and Public Speaking, Game Theory, Micro, Macro and Managerial Economics, Geo-Politics in Oil

Work Experience

Hewlett Packard Enterprise — **Santa Clara, CA**
Aruba *Networking Division,* ***Software Development Intern*** — *May 2017 - Dec 2017*

Worked with network analytics engine (NAE) team to develop a full stack application to debug network errors by utilizing the Aruba analytics engine on the new campus and branch switch.

- Developed back-end service in Golang to collect data from the switch through REST API.
- Created data processing module to analyze network behavior and carry out additional data collection to drive down to a root cause.
- Exposed our own REST API to *ReactJS* front-end to display root cause derivation tree to end-user.

Blockchain Research Team, Purdue University Computer Science Department — **West Lafayette, IN**
Blockchain Solution for Supply Chain with IBM Hyperledger — *May 2015 - Present*

Worked with a team of graduate and undergraduate students led by Prof. Aniket Kate to develop prototypes for supply chain software for **Northrop Grumman** and the mobility division of **Ford Motor Company**.

- Designed transactions the align with use case specifications.
- Used Golang and REST APIs to develop Blockchain transaction logic.
- Implemented the above logic through transaction logic code known as *chaincode*.
- Wrote automation scripts to initialize *Docker* containers and speed up development and testing time.

Projects

Operating Systems Programming and Kernel development
Modified the XINU operating system kernel designed by Prof. Douglas Comer
Used C to implement signal handling, restructuring ready lists, process scheduling, semaphore lists, message passing and call back functionality to create powerful applications on embedded systems.

Implemented a Unix Shell
Unix compatible shell application written in C
Shell with IO Redirection between commands, Pipes, Background and Zombie process handling, Environment variables, Wildcarding, signal handling, subshell and Line editor. Also utilized Valgrind for debugging.

Memory Allocator Library
Implemented memory allocation library
Exposed through application calls in C and implemented by requesting heap memory and utilizing free-lists.

Awards and Leadership

President of Purdue Boxing Club
Elected in a leadership role at the PBC. Facilitating resources for a better member experience.

Recipient of Purdue Summer Stay Scholarship and Position in Cryptography Research Team
Scholarship for full tuition for summer classes to join the research team at Computer Science Department

Semester Honors and Dean's list
Semester Honors and Dean's list in 2014, 2015, 2016 and 2017