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 2016 - 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