Rishi Kalluri

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EDUCATION

UNIVERSITY OF ILLINOIS, URBANA-CHAMPAIGN — Aug 2017 - Dec. '2020 (Expected)
B.S. Computer Engineering — GPA: 3.53/4.0
Coursework:
Computer Systems Engineering, Analog Signal Processing, Data Structures

EXPERIENCE

PHYSIQ | Software Engineering Intern — May 2018 - Aug 2018 | Chicago, IL

- Worked on API team to improve test coverage and prototype data streaming from clients to internal database
- Developed BDD integration tests using Python SDK, improving test coverage by more than 50%
- Built tooling to import serialized sensor data with Google Flatbuffers library
- Created React.js application to generate API documentation based on the Open-API (Swagger) specification

CAPITAL ONE LABS | Invitational Software Engineering Summit — May 2018 | Arlington, VA

- Constructed a Google Chrome Extension to manage users' subscription payments, helping to prevent unnecessary subscriptions
- Developed RESTful API service to manage subscriptions using the Capital One Nessie API
- Implemented front-end for Chrome Extension to monitor subscription usage and allow user login
- Integrated Amazon S3 for file storage and leveraged Elastic Beanstalk for deployment

RESEARCH

LINUX SCHEDULING | Prof. Sibin Mohan, Dep. Computer Science — Feb 2019 – Present | Champaign, IL

- Working in research group focused on cyber-physical and real-time systems
- Learning about vulnerabilities of real-time Linux task scheduling
- Developing a method to randomize the scheduling of real-time systems to prevent timing inference attacks

PROJECTS

CONTROLLER DRIVER | C, x86, Mode X, VGA Hardware, TUX Controller — March 2019

- Created interrupt-driven device driver for TUX controller to interact with CPU and kernel
- Interacted with VGA hardware to control screen information based on game data
- Implemented core I/O controller calls for TUX, including LED Display and button input to control player
- Designed multi-threaded scheme to allow asynchronous keyboard and controller input

ULTIMATE TIC-TAC-TOE BOT | Python, Numpy — January 2019

- Built utility-directed agent to optimally play Ultimate Tic-Tac-Toe
- Implemented agent with alpha-beta pruning, improving efficiency of calculations by a power of two
- Calibrated agent to result in 80% victory against human players

SFPD DISPATCH ANALYSIS | Python, Flask, Bootstrap, HTML, JavaScript, CSS — February 2018

- Developed application to visualize and analyze SFPD dispatch information in CSV format
- Used statistical modeling (KNN) in Python to predict the dispatch, based on time and location
- Interpreted data and provided potential solutions to improve safety in various San Francisco areas

SKILLS

COMPUTER LANGUAGES: Python, C, C++, Java, x86 ISA, React.js, CSS, HTML
TOOLS: Git, GDB, Cucumber/Gherkin, Vagrant/Docker, MySQL, MongoDB, Amazon S3, Amazon EC2
OTHER: VGA Hardware, Amazon Elastic Beanstalk, Heroku, Unix OS