James Kesley Richardson

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Education

University of Houston (2016 - December 2019)
Major: Bachelors of Computer Science
Minor: Computer Engineering Technology and Mathematics
GPA 3.627

Job Experience

Flashcard Team Intern, *IBM Flash Systems*
January 2017 - Present

Worked on various projects as the Flashcard Team's intern, developing a rich and diverse skill set in Linux Utilities, Userspace Programming and Scripting, System Management and Administration, Network Infrastructure, and Embedded Firmware and Hardware Development

- Wrote scripts to test, verify and allocate data for embedded processes running on Flashcards
- Creation and enhancement of full stack web utilities
- Developed Linux user-space utilities to communicate directly with flashcard over PCIe and I2C
- Designed, created, oversaw and conducted both automated and manual testing
- Developed build generation and verification processes

Skills

- Proficiency in multiple scripting languages (Python and Bash)
- Two years of experience developing software in C
- Concrete understanding of Computer Architecture
- Fluency in Linux utilities and scripting
- Experience with multiple development tools (Git/Github, Jira, RTC)
- Ability to learn new concepts quickly

Projects

Autonomous Maze Solving Robot **Spring 2019**
• Robot equipped with two wheels, line sensor and bump sensors to allow for solving mazes and racing
• Used hardware generated interrupts from both GPIO pins and system timers to enable real time functionality for the Robot
• Developed as final project for Real Time Systems and Embedded Programming Course
• Third Place out of 12 groups in class

Hardware Implemented Automated Gardening System **Spring 2019**
• Finite State Machine connected to a Soil Moisture sensor and Water Pump, implemented completely with IC Chips
• Arduino used as ADC and system clock.
• Developed as final project for Digital Systems Class
• Awarded Second place out of more than Thirty Groups

Pick Up Drop off World **Spring 2019**
• Implementation of the Q-Learning Algorithm to optimize solutions to the Pick Up Drop Off World
• An initially uninformed agent must move all blocks located on Pick Up Locations to Drop off Locations and learn the layout of the world to optimize performance over time.
• Developed as final project for Artificial Intelligence course

Relevant Courses

Microprocessor Architecture	**Summer 2019**
Real Time Systems and Embedded Programming	**Spring 2019**
The Fundamentals of Operating Systems	**Fall 2017**
Computer Architecture and Organization	**Spring 2017**