

SAMUEL HWANG

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WORK EXPERIENCE

Applied Medical

Software Development Intern

Rancho Santa Margarita, CA

June 2017 - Present

- Maintaining and debugging the Voyant medical device software using PTC Integrity as version control
- Ensuring all commits to the embedded firmware are MISRA compliant and properly system fail when unexpected actions occur
- Expanding a script parsing compiler in C++ that interprets functionalities such as if-else statements and directory search
- Building a wrapper library in C++/CLI for cross-language communication to the SAP client in C# to store and call device scripts
- Creating scripts using AutoIT to simulate user inputs and interact with Windows GUI for automated overnight testing
- Writing batch scripts to implement these AutoIT programs with other Command Prompt commands to test the daily firmware build

UCR Department of Physics

Research Software Developer

Riverside, CA

August 2017 - Present

- Developing C++11 programs to analyze research data and create Python programs to interact with the COMET supercomputer
- Concurrently running these programs using SLURM Workload Manager and writing Shell scripts orchestrate the program calls

UCR Department of Psychology

Research Software Developer

Riverside, CA

May 2017 - Present

- Developing a flash memory game on Unity primarily for mobile to implement research on Implicit Followership Theory
- Designing responsive UI with features including the main menu, option configurations, and a photo album

UCR Department of Sociology

Research Software Developer

Riverside, CA

April 2017 - June 2017

- Developed software in C++ with the z-Tree platform to conduct social exchange experiments for research
- Constructed a responsive UI and created corresponding graphics to make experiments easy to understand for participants
- Programming background expedited the team's development process, creating four different experiments in 10 weeks

PROJECTS

Unix Shell

- Recreated Bash in C++ with standard functionalities such as navigating through files and directories
- Utilized the `execvp()` function to call terminal commands such as `ls`, `cd`, and `echo`.
- Wrote the parsing function to interpret complex command combinations with boolean clauses and parentheses
- Tested the custom terminal with multiple shell scripts to ensure it behaved like a normal Unix shell

LCD Racer Game

- Programmed an ATMEGA1284 with an LCD screen, buttons, and LED lights to simulate a racing video game
- Included a CPU/'Player Two' option able to shoot projectiles through the screen at 'Player One'
- Implemented random obstacles for 'Player One' to avoid and points were counted by how long 'Player One' survived each second

LEADERSHIP

Theta Tau, Co-Ed Professional Engineering Fraternity

Corresponding Secretary (2016-2017) | Webmaster (2017-Present)

Riverside, CA

2015-Present

- Assisted Executive Board to maintain chapter relations with alumni and surrounding Theta Tau chapters
- Head coordinator of the Western Regional Conference hosted at UCR on October 2016
- Maintaining our chapter's website as Webmaster: <http://www.thetatauucr.com>

TECHNICAL STRENGTHS

Programming:

C++ (Primary), Python, C, C#, SQL, HTML/CSS, Javascript

Other Software & Tools:

Git, PTC Integrity, Visual Studio, iAR Embedded Workbench, MATLAB, Unity 5, L^AT_EX

EDUCATION

University of California, Riverside

Bachelor of Science in Computer Science

Expected Graduation: Spring 2018

- Received the Highlander's Excellence Scholarship to UCR