

# SAMUEL HWANG

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## WORK EXPERIENCE

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### Applied Medical

Software Engineer

Rancho Santa Margarita, CA

October 2017 - Present

- Continuing to develop the Voyant medical device software and internal PC applications during the school year

Software Development Intern

June 2017 - September 2017

- Maintained and debugged the Voyant medical device software and used PTC Integrity as version control
- Expanded a script parsing compiler in C++ that interprets functionalities such as if-else statements and directory search
- Built a wrapper library in C++/CLI for cross-language communication to the SAP client in C# to store and call device scripts
- Created scripts using AutoIT to simulate user inputs and interact with Windows GUI for automated overnight testing

### 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
- Utilizing the open-source software package, iTensor, to represent a quantum many-body wavefunction as a product of tensors

### UCR Department of Psychology

Research Software Developer

Riverside, CA

May 2017 - Present

- Designing the UI (main menu, option configurations, and photo album) for a mobile flash memory game on Unity
- Developing a RESTful API using Django and AWS to collect and analyze user game data

### UCR Department of Sociology

Research Software Developer

Riverside, CA

April 2017 - June 2017

- Developed social exchange experiments with varied complexity using C++ and the z-Tree application
- Constructed a responsive UI and created corresponding graphics to make experiments easy to understand
- Programming background expedited the team's development process, creating four different experiments in 10 weeks

## PROJECTS

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### Unix Shell

- Recreated Bash in C++ with functionalities such as navigating files and directories and used execvp to call terminal commands
- Wrote the parsing function to interpret complex command combinations with boolean clauses and parentheses

### LCD Racer Game

- Programmed an ATMEGA1284 to control peripherals and simulate a racing video game for up to two players
- Calculated points by time 'Player 1' lives and included a CPU or 'Player Two' option to shoot projectiles at 'Player One'

## LEADERSHIP

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### 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 over 60 alumni and the 11 surrounding Theta Tau chapters
- Overlooked the Community Service Chair to plan at least 3 events per quarter to serve our college and community
- Lead and coordinated our chapter's Western Regional Conference and managed a budget of over \$10,000
- Maintaining our chapter's website as Webmaster: <http://www.thetatauucr.com>

## TECHNICAL SKILLS

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**Programming:** C++ (Primary), Python, C, C#, Shell, Batch, SQL, HTML/CSS, Javascript  
**Software & Tools:** Git, PTC Integrity, Visual Studio, SAP, iAR Embedded Workbench, Unity 5, Xcode, L<sup>A</sup>T<sub>E</sub>X  
**Spoken Language:** English (Native), Mandarin (Limited Working Proficiency)

## EDUCATION

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### University of California, Riverside

Bachelor of Science in Computer Science

Expected Graduation: March 2018

- Highlander's Excellence Scholarship & Dean's List Fall 2014