Frank Liu

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Technical Skills: Circuits, Python, R, Java, Linux, GRC software for USRP radios, HTML, CSS, Verilog
Interests: Research, Augmented and Virtual Reality, Mobile Health, Hardware engineering, Signal Processing, Project Management

EDUCATION

Arizona State University | Tempe, Az **2018 – 2023 (Expected)**
Degree: <u>Doctor of Philosophy in Computer Engineering</u> GPA: 4.0
- Dean's Fellowship; awarded to the top 4% of graduate students who display significant leadership and research capabilities
- Ira A. Fulton Fellowship

University of Washington | Seattle, WA **2014-2018**
Degree: <u>Bachelor of Science in Electrical and Computer Engineering</u> Graduated with Honors
- Digital Signal Processing | Embedded Systems
- IEEE HKN Honors Society, Priscilla and Melvin Wilson Endowed Scholarship, Husky Leadership Certificate, Washington Scholar

UC Berkeley | San Francisco, CA **Summer 2016**
- **Summer quarter:** Classes taken - Python and Big Data, Biostatistics GPA: 4.0

EXPERIENCES

INDUSTRY

National Taiwan University | Taipei, Taiwan
Software Engineer, **IoX Center Research Assistant**
July 2018 – August 2018
- <u>Award of Excellence:</u> Significant contributions in shipping android application SoberComm, allows alcohol dependent individuals and their family members to monitor alcohol usage
- Extensive version control and debugging
- Advised by Professor Bing You

Roxy Device | Seattle, WA
Startup Intern
January 2018 – March 2018
- Lead generation and public outreach for customer acquisition
- Building, assembling, and QA testing of Roxy Device hardware devices

Microsoft | Redmond, WA
Consultant / Educator
Nov 2017 – January 2018
- Creating labs, lessons and course content for the "Introduction to Device Programming" EDX (MICROSOFT COURSE) [DEV295X] using Microsoft's IOT Pack for Raspberry Pi for audience of thousand+ students

Verizon Wireless | Bellevue, WA
Systems Performance Intern
January 2017 – March 2017
- Supported Systems Performance/Radio Frequency engineers in evaluating and improving areas of poor coverage using internal SP / RF tools
- Collected service measurement data to optimize the network, reduce lost calls, and ineffective attempts

UW Hyperloop Team | Seattle, WA
Power Electronics Team Member
Nov 2016-Jan 2017
- Hands-on experience in building Hyperloop Pod
- Team placed 4th in United States, 6th in the World at International SpaceX Hyperloop Competition

RESEARCH

ASU Meteor Studios | Tempe, Arizona
Graduate Research Assistant
August 2018 - Present
- Research Direction: Improving Virtual/Augmented reality experience with Spatial Audio and Haptics
- Advised by Professor Robert Likamwa

UW UbiComp Lab | Seattle, WA
Undergraduate Research Assistant
March 2017-June 2018
- Independent Study: RF2DSense; paper, powerless RFID touch surface
- Working with PhD Hanchuan Li on IDCam: a project to bridge online and real world shopping with AR and RFID: Wrote algorithm for signal mapping of AR headset and RFID tags

UW Medicine | Seattle, WA
Computer Science Research Assistant
Nov 2015-Jan 2017
- Worked with Professor Aaron Lee on a project using twitter data to predict epidemics: Utilized Python, R libraries to visualize and analyze months of twitter data to show frequency of tweets over time
- Leveraged (SQL, Amazon S3 Cloud, Azure Virtual Machine) to manipulate and wrangle data

UW Department of EE | Seattle, WA
Undergraduate Research Assistant:
Mar 2015-Oct 2015
- Created a live transmitter & receiver that plotted, saved data in real time for Professor John Sahr's radar and remote sensing lab

PROJECTS

IdeaHacks 2016 | 2017
- Developed a smart mat that sent texts if weight was on it at UCLA's hardware hackathon – 2016
- Developed smart trash bin with various sensors, and presented for Finals - 2017

Facebook LGBT Hackathon participant 2015
- Contributed and developed a chrome extension that kept people on task when surfing the web: http://bit.ly/1jgAHbk

Seattle Give Camp participant 2015
- Helped revamp nonprofit's website: hungerintervention.org
- Old Website: hungerintervention.org/index.html

Adventures of Little Cricket and Friends 2018
- Self-Published Book - https://tinyurl.com/littlecricket

INVITED TALKS

Scholar-Donor Recognition Luncheon Nov 14 2017
- Personally invited by Michael Bragg, University of Washington College of Engineering Dean to share my experiences as a student leader on campus

LEADERSHIP

SunHacks Organizing Team - Marketing August 2018 – November 2018
- Lead marketing campaigns selling out tickets for 300+ participants; Organized the largest hackathon in Phoenix Area; SunHacks, ASU's 36 hour hackathon

UW Advanced Robotics | Seattle, WA July 2017 – July 2018 | March 2017 – July 2017
Executive Board Member | **Team Member**
- Annotate Meetings/ weekly sprints, Coordinate 90 members, Raised over 18,000 in funding through philanthropy efforts and sponsorships
- Refiller Robot Lead; Design and CAD reviews; wrote embedded software (C, C++,Arduino) for Robot control systems
- Summer 2018 Placed 3rd in International Regionals| Summer 2017 Placed 31st out of 241 at International DJI Robomasters competition in Shenzhen, China

Violinist in the University Washington Symphony Orchestra: 2014-2015 seasons
- Served as Second Principal, played in both first violin and second violin sections
- Performed in a sold-out show in Meany Hall

Youngest violinist in the Seattle Philharmonic: 2015-2016 season
- Aired on King Fm Radio 98.1: August 26th 9pm to 10:30pm
- Performed in Benaroya hall

TEACHING

Arizona State University | TA for Introduction of Augmented & Virtual Reality January 2019 – May 2019
- Established curriculum with Professor Likamwa to teach unity fundamentals

University of Washington | Grader/TA for Introduction to Circuits Class (EE 215) October 2016-March 2017 | March 2018 – June 2018
- Established curriculum with Professor Tai-Cheng Chen/ Gordon Farquharson/ Karl Bohinger to teach entry level circuit design

Coding with Kids | Classroom Instructor March 2017- June 2017
- Taught coding course curriculum for scratch at local elementary schools, Managed classroom of 8-14 elementary students