

Leon Durrenberger

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EDUCATION

University of Southern California, Viterbi School of Engineering Aug 2018 - May 2022
Bachelor of Science in Computer Science GPA: 3.737
Recipient of USC Presidential Scholarship (half tuition) and the National Merit Scholarship

EXPERIENCE

Microsoft Devices - Remote / Seattle, WA May 2022 - Aug 2022
Software Engineering Intern

- Designed and implemented system to automate detection of high power scenarios in devices
- Built and analyzed dataset from over 600 devices in testing & retail phases using **C# .NET** and KQL
- Collaborated with three teams to maximize benefit across Microsoft Devices and Experiences

Microsoft Devices - Remote / Seattle, WA May 2021 - Aug 2021
Firmware Engineering Intern

- Automated suite of keyboard backlight tests for Surface Laptop line with **OpenCV** and **Python**
- Reduced time for test from 12 seconds to 4 seconds using host of computer vision techniques
- Created internal application using Tkinter to set configuration for varying keyboard layouts
- Designed scalable hardware testing system that will be deployed for use in production environment

University of Southern California - Los Angeles, CA Jan 2020 - present
Course Producer - CSCI 356 (Computer Systems)

- Taught course topics from computer organization, assembly, ROP, caching & memory allocation
- Hosted weekly office hours to answer student questions and debug **C** programs

PROJECTS

USC Makers, Team Crani-Arm Aug 2021 - May 2022
Software Team

- Used **Python**, **C++**, and **Arduino** to interpret EEG arm sensors to control a robotic hand
- Built **LSTM** with **Tensorflow** to analyze signal to generate discrete gesture detection
- Created testing framework utilizing **OpenCV** to label hand gestures during data collection

USC Makers, Team Robodog Jan 2021 - May 2021
Software Team

- Used **C++** and **Raspberry Pi** to build & configure controls system for 3-D printed robotic dog
- Utilized Bluetooth and Linux to connect to Xbox controller for user interface
- Handled synthesis of team's electrical planning to test and redesign power & actuator systems

USC Makers, Team Makers Army Aug 2019 - Aug 2020
Project Manager

- Chosen to lead the design and implementation of a Bluetooth LE controlled robotic arm using **C++**
- Building embedded wearable sleeve so user's arm motion is mimicked by robot
- Led and planned progress between all subteams in-person and amidst virtual shift

LEADERSHIP

USC Makers, E-Board Aug 2019 - May 2022
President (2021-2022), Director of Membership (2020-2021), Associate Director of Programming (2019-2020)

- Led premier hardware organization through transition from remote to in-person work
- Managed 12-person board through weekly meetings for 90-person organization
- Created and led tutorials for USC community on **Raspberry Pi**, **Arduino**, PCB design, and CAD

SKILLS

Fluent in C++, Python; coursework in ML, IoT, OS, Robotics, Web Development, Game Development