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

Nexstream Technical Institute - Remote / San Diego, CA *May 2020 - Aug 2020*
Content Creation & Web Development Intern

- Led development of curriculum plan for path of courses covering data mining, exploratory data analysis, **linear & logistic regression**, model evaluation, statistics, linear algebra, and **Tensorflow**
- In charge of lesson creation for entire course: Python Fundamentals for Machine Learning, covering linear algebra, **NumPy**, **Pandas**, **MatPlotLib**, and two regression projects in Google Colab
- Gathered requirements and created mockups in **Figma** for development of new home website

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

CSCI 461 *Aug 2021 - Dec 2021*
PredPol Analysis

- Replicated a common predictive policing algorithm, PredPol, using **Python** in order to determine correlation with historically redlined districts
- Trained algorithm on two years of narcotics crime data in Los Angeles and observed high causality between an area's HOLC rating and its predicted amount of crime, revealing the algorithm's bias

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
- Built data analysis system using **Python** to mitigate bias in recruitment process
- Created and led tutorials for USC community on **Raspberry Pi**, **Arduino**, Audio Processing, and CAD

SKILLS

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