

ABEL AGUILAR

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Skills

Programming Languages:

Proficient in C++ and Python3, Basic in MATLAB, HTML, and CSS

Hardware design:

Proficient with Arduino Uno, Raspberry Pi 3, Elmo, USB Rubber Ducky, Wifi Pineapple

Computer Skills:

Fritzing, Linux, Jupyter Notebook, Excel, PowerPoint, Microsoft Word, Data Entry, Outlook, Google Drive, Slack-Bot, Asset Panda, KiCad, AutoCad, Kali Linux, Discover, Setoolkit

Languages:

Native Spanish speaker

Relevant Past Coursework:

Intro to Embedded Systems, Intro to IoT, Linear Circuits, Software Design, Intro to Information Security, Intro to Digital Circuits, Ethical Hacking

Relevant Current and Future Coursework:

Introduction to Computer Networks, MOS VLSI Circuit Design, Web Application Security, Enterprise Network Design, Parallel and Distributed Computation

Education

BACHELOR OF SCIENCE IN ELECTRICAL AND COMPUTER ENGINEERING - University of Southern California – Los Angeles, CA – August 2017 – May 2021 (Expected Graduation Date)

- Specialization: Computer Security
- GPA: 3.26

Work Experience

INTEL STUDY LEADER - USC Viterbi School of Engineering - Los Angeles, CA – September 2020 – Current

- Help lesson plan and tutor one-hour sessions a week for current students taking USC's introductory course on embedded systems

INFORMATION TECHNOLOGY HELP DESK TECHNICIAN - Ostrow School of Dentistry of USC - Los Angeles, CA – May 2020 – Current

- Assist approximately 30 dental personnel a week with tech-related issues such as password resets, permissions/escalations, and general technical support

VITERBI SUMMER INSTITUTE RESIDENT ADVISOR – USC Viterbi School of Engineering – Los Angeles, CA -June 2020 – July 2020

- Helped lead and mentor a 4-week program designed to help transition engineering students of historically underrepresented backgrounds into college

SHOW CONTROL SYSTEM INTERN – Walt Disney Imagineering – Glendale, CA - May 2019 – August 2019

- Helped tune Elmo driven motors and test a new ESTOP system for animatronic figures on ride systems

CONTROLS ENGINEERING INTERN – Universal Studios Creative – Los Angeles, CA - Feb 2019 – May 2019

- Developed an automated python script that ran through a slack-bot to collect and centralize critical project data into one document decreasing previous time for documentation process by 97%

Extracurriculars

RESEARCH ASSISTANT – USC Viterbi School of Engineering - Los Angeles, CA – Feb 2020 – Current

- Currently collaborating with PhD student on developing a library of uses for the FPGA to test data sets and working to send data from an FPGA into a Matlab script for real time FFTs: <https://hhlab.usc.edu/>

FOUNDER – USC AVL – Los Angeles, CA - Nov 2018 – Current

- Founding member and leader of a club created to collaborate with other engineering students to construct a self-driving car

Projects

WIFI PINEAPPLE MITM ATTACK: Created a fake capture portal of USC's login page capable of intercepting credentials

PYTHON PASSWORD CRACKER: Created Python script to brute force hash values (MD5) to extract passwords

SOFTWARE DESIGN PROJECT: Designed a terminal based networking software to connect with users/save contact information

LINEAR CIRCUIT PROJECT: Built and designed a tuner and amplifier for an electric guitar using electrical components

IoT PROJECT: Implemented communication between two RaspberryPis using an open mote to send sensor data

EMBEDDED SYSTEMS PROJECT: Implemented serial communications between two Arduino UNOs using electrical components