Lien White

Hello! I am a recent robotics engineering graduate looking to dive deeper into the realm of electronics.
My goals are to conduct research in network communications for applications in space and clean energy while obtaining my master's in electrical engineering.

GitHub Webpage

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Lien-White

EDUCATION

Arizona State University | Mesa, AZ

ENGINEERING (ROBOTICS) B.S.E.
January 2019 – May 2021

- Minor in Human Systems Engineering
- GPA: 4.0/4.0

University of Washington | Seattle, WA

PRE-ENGINEERING
June 2016 – July 2018

- Intended Electrical Engineering
- GPA: 3.3/4.0

EXPERIENCE

First Mode | Seattle, WA

ELECTRICAL & EMBEDDED SYSTEMS CO-OP INTERN, PROJECT TONKA AND DSOC
May 2021 – December 2021

- Architects software in Linux and Python across 24 CAN channels to simulate the transfer of data for a hydrogen-powered mining hauler (Project TONKA).
- Designs CAN communication adapter boards in Altium for hardware-in-the-loop operations in relationship with the PCAN PEAK system.
- Conducts hardware processing and analyzes thermocouple trends of NASA's DSOC aperture cover under thermal vacuum conditions with National Technical Systems (NTS) for NASA's Jet Propulsion Laboratory (JPL).

Paragon Space Development | Tucson, AZ

CAPSTONE STUDENT RESEARCHER
August 2020 – May 2021

- Designed the ethernet and RS-422 hardware architecture necessary for a serial communications adapter between lunar landers and payload systems.
- Lead thermal-vacuum testing for a space-grade mechanical chassis (built from polyethylene, aerogel, and aluminum) used to safely enclose electronics such as RS-422, ethernet, and RS-232 communications.

The Luminosity Lab | Tempe, AZ

UNDERGRADUATE STUDENT RESEARCHER
January 2020 – May 2021

- Outlined the mesh networking program for over five ESP32 WiFi modules in Arduino for "VELOS", a NASA funded "Big Idea Challenge" project.
- Lead R&D and literature writing on the future of smart city communications, such as quantum, on behalf of a telecommunications company in Phoenix.
- Programmed a Bluetooth power testing service using the Norton NRF-52 kit with a team for a local climate and comfort design company in Tucson.

SKILLS

Interpersonal

Clear and vocal communicator
Flexible in a fast environment
Collaborative teammate
Organized leader
Deadline-driven
Detailed-oriented
Elementary Spanish speaker
Elementary Chinese speaker

Electrical Expertise

Altium
Cadence PCB Designer
NI Multisim Simulation
CAN Communications
ESP-32 Mesh Communications
Power Budgeting
Analog + Digital Signals
Stepper/DC motors
MOSFETs/BJTs
H-Bridge Drivers
Operational Amplifiers
Proximity Sensors
PIC/PSoC Microcontrollers
Particle Photon BLE

Software Expertise

Linux
C/C++
Python
Java
MATLAB/Simulink

Mechanical Expertise

Solidworks CAD
Autodesk Fusion CAD
3D Printing
SMD Soldering
Harness Design and Assembly
Thermal-Vacuum Testing
Class 5-7 Cleanroom Expertise
Vibrations Table Operation

EGR 304/314: Embedded Systems Design I & II | Mesa, AZ

EMBEDDED SYSTEMS DESIGNER & TEACHING ASSISTANT

August 2020 – May 2021

- Taught students how to properly design their power, motor, sensor, and Bluetooth module circuits for a PCB in Cadence to best support the creative projects tasked to them.
- Scheduled 2-5 hours of weekly office hours dedicated to helping students improve their embedded programming in C, soldering, and hardware/software testing procedures.
- Wrote blog entries for the course website about various topics from the basics of C/C++ to how to properly select fuses for a specific power design.

EGR 217: Engineering Mechanics | Mesa, AZ

GRADER & TEACHING ASSISTANT

August 2019 – May 2021

- Taught and graded over 70+ students on basic engineering statics/dynamics, such as free body diagrams and relative motion.
- Returned detailed feedback on every student's homework and quizzes about how they could improve their free body diagram and notation for example.
- Hosted recitations weekly and exam reviews monthly for struggling students by creating and guiding students through practice problems I wrote.