BAILUN WU, EIT

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Education

University of California, Los Angeles (UCLA)   **Los Angeles, CA**
---*B.S., Electrical Engineering*   (Sept 2022 - Dec 2024)

- ❖ GPA: 3.53
- ❖ Honor: Dean's List (Good Standing)
- ❖ Club: Institute of Electrical and Electronics Engineers (IEEE)

Certifications

Engineering in Training (EIT) Certification   **September 2024**
---Issued by the Board for Professional Engineers, Land Surveyors, and Geologists, License **#182862**

Technical Skills

Programming Language: Matlab; Python; Embedded C/C++; SystemVerilog; LabView; LaTeX; OpenCV; Simulink; Git; MQTT; SpeechRecog

Testing Tool: Arduino; Oscilloscope; Function Generator; Multimeter; Power Supplies; Microcontroller; VNA; Logic Analyzer; Soldering

Software: AutoCAD Electrical; LTspice; EAGLE; PowerWorld; Microsoft Excel, Office & PowerPoint; STM32CubeIDE

Course: Power System; Advanced Analog/Digital Circuit Design I II (High-Speed circuit design); System and Signal; Feedback System and Control; Data Structures/Algorithms; Machine Learning; Semiconductor Device Design; Nanotechnology & Nanoelectronics; Power Electronics; Digital Signal Processing (DSP); RF Circuitry/System; Image and Speech Processing; Communication and Wireless System; Optics and Laser

Work Experience

UVFAB Systems, Inc.   **Remote, United States**
---Electrical Engineering Intern   (Mar 2024 -Aug 2024)

- ❖ Cable & Harness designing for AC modules/Capital Equipment/Sensors/Temp Controllers, digital timers, etc.
- ❖ Design electrical/electronic engineering assemblies, layouts/schematics, and detailed drawings
- ❖ Preparing engineering specification documents, Test specifications, and interfacing with other teams
- ❖ Perform engineering analysis on component failures and interact with vendors for resolution

Engineering Projects

Solar Powered Vehicle   **Los Angeles, CA**
---UCLA IEEE Project   (Oct 2023 - Jun 2024)

- ❖ Power system optimization with transient circuit analysis of the embedded circuit components
- ❖ Designing and testing PCBs for solar energy harvesting and power management.
- ❖ Implementing signal processing techniques to enhance control system performance and stability.
- ❖ Conducting power factor correction analysis to improve system efficiency.

Micromouse   **Los Angeles, CA**
---UCLA IEEE Project   (Oct 2022 - Sep 2023)

- ❖ Designing and fabricating PCBs, integrating components via bench testing with oscilloscopes and logic analyzers.
- ❖ Developing and debugging **microcontroller(STM32-F411RE)** based FloodFill algorithms using real-time sensor data for maze-solving.
- ❖ Validating circuit performance using LTspice simulations before hardware implementation.

Electrocardiogram   **Los Angeles, CA**
---ENGR 96E   (Jan 2023 - Mar 2023)

- ❖ Designing circuit boards for ECG measurement with low-noise signal conditioning for accuracy.
- ❖ Developing a program using **Arduino Uno (ESP32)** to process and display ECG signals on a computer interface and **LCD**.
- ❖ Simulating analog filter designs using LTspice to optimize signal clarity and minimize artifacts.

Path Following Robot Car   **Los Angeles, CA**
---ECE3 Project   (Oct 2022 - Dec 2022)

- ❖ Implementing **PID control** for autonomous navigation, enabling a robotic car to complete a 3.4-meter track in 8.3 seconds.
- ❖ Using phototransistors for real-time path detection, verified sensor signals and control loop timing with oscilloscopes.
- ❖ Testing and tuning motor control signals using function generators and digital multimeters to ensure efficient operation.

Rogue Survivor   **Los Angeles, CA**
---Systems Design Capstone EE180DA/DB   (Sept 2023 - Jun 2024)

- ❖ Localizing the player's attack and direction using **OpenCV**'s object tracking and detection algorithms.
- ❖ Using **MQTT** for real-time transmission of game object data to control player motion.
- ❖ Leveraging an **IMU(SparkFun 9D0F)** in Arduino to control in-game player movement based on gyroscope measurements.
- ❖ Employing speech recognition algorithms to control the player's behavior in-game.