

# JONATHAN LIN

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## EDUCATION

### University of California, Irvine

Bachelor of Science in Electrical and Computer Engineering

September 2023 - June 2027

GPA: 3.77 / 4.00

- **Honors:** Campuswide Honors Collegium, Dean's Honor List (all quarters), IEEE-HKN (Eta Kappa Nu) Honor's Society
- **Relevant Coursework:** Computer Architecture, Circuits I/II, Semiconductor Electronics I, Digital Logic Design, Verilog

## SKILLS

**Software Tools:** Altium Designer, KiCad, Xilinx Vivado, Docker, LTSpice, GNU Radio, OnShape, Arduino IDE, Git, STM32Cube

**Test Equipment:** Spectrum Analyzer, Multimeter, Power Supply, Signal Generator, Oscilloscope, Soldering Iron, Breadboard

**Languages:** Python, C/C++, Java, RISC-V Assembly, System Verilog, MATLAB

## EXPERIENCE

### InfoStellar

Radio Frequency Engineer

June 2025 - August 2025

Tokyo, Japan

- Developed signal detection pipelines in GNU Radio and Python to extract features such as bandwidth and SNR from IQ data
- Developed and trained an XCI1d-based Automatic Modulation Classification pipeline using TorchSig and the Sig53 dataset
- Captured and analyzed live RF signals with RTL-SDR hardware through GNU Radio to visualize real time spectrum activity
- Utilized PySDR principles to perform Python signal processing tasks such as filter design, IQ processing, and PSD analysis

## PROJECTS

### CubeSat, UC Irvine

Communications Team Lead and Hardware Engineer

January 2025 - Present

Irvine, CA

- Designed a 4 layer RF transceiver PCB from component research to schematic design and PCB layout in Altium Designer
- Developed 4 layer stack-up to meet 50 Ohm impedance matching and RF transmission line signal integrity
- Integrated custom RF power amplifier, RF switch, RF low noise amplifier, and transceiver ICs to create RF comms board
- Designed 2 layer RF Power Amplifier breakout board to support communication systems testing and verification
- Managed team of 7 engineers to meet quarterly goals by holding weekly meetings and assigning clear actionable tasks
- Created telemetry packet transmission pipeline with HackRF SDR to HopeRF LoRa Module with SDRangel to simulate GSS

### CanSat, UC Irvine

Ground Station Controls Engineer

October 2025 - Present

Irvine, CA

- Assembled a ground station controls system on breadboards with Raspberry Pi 4B, buttons, switches, and 7 segment display
- Wrote Python program on Pi 4 to listen for GPIO switching events and trigger actions such as XBee radio communication
- Researched and purchased COTS hardware for ground station such as LCD and HDMI converter board to interface with Pi 4

### Micromouse, UC Irvine IEEE Student Branch

Embedded Systems Engineer

October 2025 - Present

Irvine, CA

- Designed and assembled a 4-layer PCB in KiCad featuring voltage regulators and IR sensor arrays through SMD soldering
- Programming STM32 in C/C++ to interface with IR sensors, encoders, and motor drivers for autonomous maze navigation
- Developing and simulating a floodfill pathfinding algorithm integrated into the embedded control firmware

### Open Project Space, UC Irvine IEEE Student Branch

Embedded Systems Programmer

September 2024 - May 2025

Irvine, CA

- Built IoT devices using ESP32C3 dev boards utilizing I2C, SPI, and UART embedded systems communication protocols
- Designed ESP32 microcontroller based wireless rover remote control PCB using KiCad and assembled PCBA via soldering
- Assembled and wired a remote-controlled rover driven by DC motors, wirelessly connected via ESP32-NOW WiFi protocol

### Remote Controlled Light Switch

March 2025 - July 2025

- Built household light switch controller and receiver stations to wirelessly control the light switch using servo motor actuation
- Wrote 200+ lines of C++ in Arduino IDE to setup and control servo motors wirelessly over ESP32-NOW IoT protocol
- Designed a macro pad PCB with KiCad, assembled and programmed Raspberry Pi with custom macros

### Autonomous FPV Drone

September 2025 - December 2025

- Applied practical concepts of controls, embedded, and RF comms systems to build an autonomous capable FPV drone
- Assembled quadcopter electronics by soldering and integrating flight controller, ESCs, motors, GPS, and telemetry modules
- Debugged UART and PWM interfaces to ensure reliable sensor, telemetry, and motor control connections

## ACTIVITIES

### Project Coordinator at UC Irvine IEEE Student Branch

May 2025 - Present

- Led interactive workshop on servo motor control via ESP32 devboard for embedded systems hackathon participants
- Designed and led a programmable USB to I2C protocol keychain beginner PCB design workshop for 50 UCI EECS students
- Hosted an LTSpice workshop on power latch circuits, teaching circuit simulation analysis and applications of latch circuit