Aidan Chen

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Circuit Design | Power Electronics | Hardware Test | U.S. Citizen

Education

University of California, Irvine Irvine, CA

B.S. in Electrical Engineering | GPA: 3.63 | Dean's List Expected Jun 2027

Relevant Coursework: Analog Integrated Circuit Design, Semiconductor Devices, Digital Systems Design

Technical Skills

Circuit & PCB Design: KiCad, schematic capture, PCB layout, analog/digital circuits, DC-DC converters
Simulation & Analysis: LTspice, Cadence Virtuoso, MATLAB
Hardware Test & Integration: Oscilloscopes, digital multimeters (DMM), soldering, circuit troubleshooting, sensor integration
Controls & Programming: PLC logic, industrial controls, Arduino, Python, C/C++, Verilog, Vivado

Experience

Arconic Davenport, IA

Electrical Engineering Intern, Manufacturing & Technology (M&T) Jun 2026 - Aug 2026

- Developed an AI-assisted thermal-imaging system for the Hot Line's 6-inch shear as part of an automation initiative projected to save $450,000 annually in material costs.
- Installed and calibrated infrared cameras; configured analysis software to compare slab cut locations with target positions and provide operator guidance for process control and equipment protection.
- Modified and validated PLC logic on two cold rolling mills, corrected control and alarm sequences, and supported commissioning and electrical troubleshooting.
- Conducted step testing of PLC logic and functional testing of motor drivers, PID controllers, power supplies, and sensors using oscilloscopes, voltmeters, and other measurement equipment.

Projects

DC-DC Buck Converter PCB Design Aug 2026 - Sep 2026

KiCad, Power Electronics, Test Planning

- Designed a two-layer PCB for a synchronous buck converter targeting 9-16 V input and 5 V/1 A output using the TI LMR51420 regulator.
- Sized the inductor, input/output capacitors, and feedback network using ripple-current, saturation-current, and voltage-rating requirements.
- Planned bench verification of output regulation, ripple, startup, efficiency, and thermal behavior across input-voltage and load conditions.

RC Aircraft: Electrical Integration & Flight Test May 2026 - Jun 2026

Subsystem Integration, XFLR5

- Built a 3-channel RC aircraft and integrated propulsion, power, radio, and servo control subsystems with three interchangeable, reinforced wings of approximately 900 mm span.
- Flight-tested all three configurations and compared handling with XFLR5 predictions to evaluate low-speed control and differences between simulation and physical behavior.

Five-Stage Pipelined RISC-V Processor Sep 2025 - Nov 2025

Verilog, Vivado, Digital Logic

- Converted a single-cycle processor to a five-stage RISC-V architecture in Verilog, implementing data forwarding, hazard detection, branch handling, and stall logic.
- Verified instruction flow and timing through cycle-accurate Vivado waveform analysis; isolated and corrected hazards affecting instruction execution.