Anthony Chandra

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EDUCATION

University of Southern California — **Los Angeles, CA**
Master of Science, Engineering Management — *Aug. 2026 – Dec. 2027 (expected)*

University of Southern California — **Los Angeles, CA**
Bachelor of Science, Electrical and Computer Engineering, GPA 3.525 — *Aug. 2024 – Dec. 2026*

- Relevant Coursework: Digital Circuits, Computer Systems Organization, Embedded Systems, IoT Systems, Machine Learning for Engineers, Software Design for Electrical Engineers, Linear Circuits

PROJECT EXPERIENCE

Tron Game on FPGA — **Verilog, Nexys A7 (Artix-7)**

- Coded a two-player Tron game in Verilog on an Artix-7 FPGA with 640 × 480 VGA, verified in ModelSim.
- Built the keyboard interface that decodes key presses into direction controls for both players.
- Implemented collision detection against walls and both players' trails to decide each round.
- Wrote the pixel rendering logic that maps game state to VGA pixel colors in sync with scan timing.

Smart ACL Recovery Brace — **ESP32, C++, Sensor Instrumentation**
Senior Capstone with Otis College of Art and Design — *USC*

- Built the load-sensing subsystem with 4×100 kg load cells and 2×HX711 24-bit ADCs on dedicated GPIO, off the IMUs' I²C bus.
- Calibrated each cell against known masses and fixed a reverse-wired bridge in firmware.
- Coded heel/toe and cross-leg symmetry logic that triggers haptic and LED alerts below 70% within 100 ms.
- Delivered a working untethered prototype for roughly $124 in parts.

Structure-Aware Automix Transitions — **Python, Flask, Claude API, Web Audio API**

- Engineered a Claude API agent that picks the next track, transition point and effect from song structure.
- Built a Flask backend with JSON label caching so each transition after the first needs one API round trip.
- Implemented four real-time transition effects in JavaScript (Web Audio API) for gapless playback.

WORK EXPERIENCE

PT Sumber Mandiri — **Jun. 2025 – Aug. 2025**
Intern — *Jakarta, Indonesia*

- Analyzed 30+ HVAC component datasheets for voltage, power and compatibility constraints.
- Prototyped an automated lead generation workflow to source and qualify local business prospects.
- Supported upkeep of the company's online product marketplace and technical listing system.

SKILLS

- **Hardware Design:** Verilog, SystemVerilog, VHDL, FSM design, ModelSim/QuestaSim, Artix-7 FPGA
- **Embedded:** C, C++, ESP32, FreeRTOS, MQTT, Arduino, I²C, UART, PWM, load cell ADCs
- **Software & AI:** Python, MATLAB, JavaScript, Flask, Claude API, Linux, Git/GitHub
- **Lab Equipment:** Oscilloscope, function generator, multimeter, NanoVNA
- **Languages:** English (fluent), Indonesian (fluent), Chinese (limited)