

JORGE LEON

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EDUCATION

California Baptist University

Expected: May 2027

B.S. Electrical and Computer Engineering (ABET-accredited)

Relevant Coursework: Circuit Analysis, Electronics, Signals & Systems, Digital Design, Machine & Deep Learning

TECHNICAL SKILLS

EDA / Design: Altium Designer, KiCad, LTspice; schematic capture, PCB layout, power-path design

Lab: Oscilloscope, DMM, bench power supply, soldering and reflow, board bring-up

Embedded / Interfaces: ESP32, Raspberry Pi, NVIDIA Jetson; UART, SPI, USB, I2C, LoRa, GNSS (NMEA)

ENGINEERING EXPERIENCE

CalBaptist Racing – Formula SAE EV Team

September 2023 – May 2024

Electronics Subsystem (Hardware)

- Designed 4-layer PCBs in Altium Designer for the Electrical Distribution Panel and the Driver Control module, carrying both from schematic through manufacturing and assembly.
- Hand-soldered and reflowed boards, then brought them up with an oscilloscope, DMM, and bench supply; traced and fixed a mis-pinned footprint.
- Built the vehicle wiring harness, routing sensors and power to FSAE EV rules and passing technical inspection.

Ontrack Technology Group, Inc.

May 2025 – August 2025

Software Engineering Intern

- Contributed to a real-time operations dispatch platform used at large-scale events with 10,000–60,000 attendees and over 20 response teams.
- Added a Pusher WebSocket push path to the live incident board, cutting update latency from ~2s (4s poll) to 300–500 ms with polling kept as fallback.
- Built a browser-only board that authenticates each viewer to the source API and derives availability client-side from the roster and incident set, so operators get a live view without a backend or a shared credential.

PROJECTS

Totem Air – Drone Remote ID Detection Sensor

May 2026 – Present

- Built and field-deployed a Raspberry Pi 5 sensor capturing ASTM F3411 and DJI Remote ID (custom Python parsers, noncompliance flagging) over Wi-Fi (monitor mode, 2.4/5.8 GHz channel hopping) and BLE, with GNSS over NMEA serial, feeding a live dashboard.
- Operated at large music festivals, detecting dozens of unauthorized drones and tracking aircraft out to ~5 km from a single receiver while deconflicting authorized production drones.

LoRa Mesh GNSS Tracker PCB

September 2026 – Present

- Designed a multi-sheet Altium schematic for an ESP32-S3 + SX1262 LoRa board with USB-C, SPI flash, and u-blox GNSS. Schematic complete, layout in progress.
- Power path: single-cell LiPo with CN3165 solar-capable charger, reverse-polarity protection, USB fuse and TVS, and separate 3.3V LDO rails isolating RF from MCU noise; simulated LDO startup in LTspice.
- 50 ohm matching from radio to SMA for LoRa antennas; MOSFET load switch power-gates GNSS for low-power operation.

WORK EXPERIENCE

FedEx Freight

February 2022 – Present

Logistics Analyst

- Analyze freight metrics in Excel and internal databases to improve routing efficiency and flag cost savings.