David Leal

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OBJECTIVE

Senior Electrical Engineering student with hands-on experience in robotics, IoT systems, and PCB design. Skilled in embedded systems and problem-solving, with a track record of leading projects and applying innovative solutions. Ready to contribute technical expertise and teamwork to advance engineering projects in industry.

EDUCATION

Texas A&M University - Corpus Christi **Spring 2026**
Bachelor of Science in Electrical Engineering, Minor in Mechanical Engineering & Math **GPA 3.7**

COURSEWORK

Circuits I & II, Electronic Systems Design, Control Systems, Signal Processing, EMT, & Project Management

SKILLS

Hardware & Software: MultiSim, MATLAB, AutoCAD, Autodesk Inventor, SolidWorks, Microsoft Suite, PCB Design, Soldering, C, Python, MCU, FPGA, Oscilloscope, DMM, and ROS2
Languages: English and Spanish

INTERNSHIP EXPERIENCE

Field Engineer, Longhorn Excavators Inc., Corpus Christi, TX **Aug 2022 – Dec 2022**

- Co-supervised a multimillion-dollar excavation project, ensuring budget and timeline adherence.
- Conducted precise site surveys to verify grading accuracy, reduce rework, and improve site preparation.

ADDITIONAL EXPERIENCE

Team Lead, Adelphos Coffee Roasters, Corpus Christi, TX **May 2024 - Current**

- Trained and supervised staff to maintain quality standards and efficient service

Owner, Kairos Coffee Catering, Corpus Christi, TX **Oct 2022 - Jan 2025**

- Operated mobile coffee service for 600+ guests, managing logistics and quality control.

RESEARCH

Research Assistant, Collaborative Robots & Agents Laboratory, Texas A&M Corpus Christi **Mar 2024 - Current**

- HEART MONITOR: Designed and implemented MCU-based systems using ESP32 for biometric monitoring, integrating I^2C sensors (MAX30102, TMP36) and wireless data transmission to Blynk/IoT platforms for Socially Assistive Robotics.
- AUTONOMOUS RACECAR: Developing control algorithms and real-time data processing pipelines to enable autonomous navigation, integrating sensor fusion from LiDAR and onboard systems with ROS2, Linux-based, for reliable path planning and obstacle avoidance.
- CAPSTONE PROJECT: Designed a MIL-STD-compliant rocket engine test stand integrating 4–20 mA pressure transducers, thermocouple-based temperature sensing, and Arduino-controlled RF serial telemetry for automated thrust, flow, and ignition control.

LEADERSHIP

Team Captain, Hackathon - Deployable Disaster Alert System, Texas A&M Corpus Christi **Nov 2025**

- Developed an IoT-based disaster alert system using Raspberry Pi, Flask REST APIs, and real-time sensor data integration for automated web-based disaster warnings.

ACTIVITIES & CLUBS

American Society of Mechanical Engineers Rocketry Team Member **Jan 2024 - Current**
Institute of Electrical and Electronics Engineers Ethics Team Member **Jan 2023 – Current**

AWARDS & HONORS

Academic Dean's List **Jan 2023 - Current**
Louis Stokes Alliances for Minority Participation Scholarship Recipient (Research Scholarship) **Jan 2025 - Current**
Pioneer for Cheniere Regional Competition 2nd Place Award Recipient (Hazard Analysis Competition) **Feb 2025**