Jordan Lara

jordanlara445@gmail.com • (956) 624-1042 • Full-time • Portfolio: https://jordanlara.info

EDUCATION

The University of Texas Rio Grande Valley **Edinburg, TX - Aug 25' – May 26'**

- **Bachelor of Science:** Major in Electrical Engineering; Minor in Computer Science. **GPA: 3.6**
- **FE & EIT:** In Progress.

WORK EXPERIENCE

RTX (Collins Aerospace), Electrical Engineer Co-Op **Melbourne, FL - Jan 23' – Aug 23'**

- Led multiple manufacturing electrical engineering projects to improve avionics unit testing; managed testing for **HFS-2200, VHF-2200, DME-4000, LRA, ALT, TDR, GPS, ADF, VIR, GLU, WRP, NAV, and antenna assemblies** supporting Boeing, Airbus, and military programs; performed failure data analysis, root-cause investigations, corrective actions, and formal failure reporting.
- **SolveTron Station Recovery:** Partnered with Test EOC to restore SolveTron production by replacing two **NI PXI** cards, resolving software issues, and tracing a loose pin causing intermittent power loss; **doubled capacity** by bringing an additional station online (added ~**10 units/day**, up to **$8.4M/month** capacity).
- **CATS 767/771 Recovery & Calibration:** Coordinated **cross-team effort** to identify full harness requirements; acquired and implemented replacement harnesses for CATS 767 & 771 ITAs and worked with calibration to return systems to production; **doubled capacity** (added ~**10 units/day**, up to **$8.4M/month** capacity).
- **ESS Fixture Recovery (NAV):** Troubleshot and repaired failing NAV fixtures per Collins drawings using **specialized tooling and soldering**; increased working fixtures from **3/12 to 9/12** (**tripled capacity**), enabling ~**18 additional units/day** (~504/month) and up to **$7.5M/month** capacity.
- **NAV JTAG Station Optimization:** Offloaded Brady Mark and other compute load to a secondary Windows PC and removed antivirus from the primary test image (kept off main network) to **eliminate interruptions**; cut test time **5–10 minutes per unit** enabling ~**8 additional units/day** (~224/month) up to **$6.7M/month** added capacity.
- **ESS Chamber Capacity Restoration:** Diagnosed down-slot root cause as a failed **electromechanical RF relay**; evaluated relay-chatter remediation, quoted/procured replacement, and managed installation; restored chamber from **15 to 16 slots** enabling ~**112 additional units/month** and up to **$3.0M/month** capacity.
- **ESS Chamber Slot Recovery:** Restored an additional down slot by troubleshooting an ALT ESS cable, validating functionality, and installing it into the affected channel; **recovered capacity** from **15 to 16 slots** enabling ~**112 additional units/month** and up to **$3.0M/month** capacity.
- **Harness Repair & Sustainment:** Repaired ESS, test-station, and **RF cable** harnesses across CNS IPT using **specialized tooling and soldering**; executed verification checks and **managed material quoting/ordering**; refurbished **10+ cables** in-house, saving **$10k+** versus outsourcing.
- **Down-Equipment & Yield Tracking Application:** Built a network-hosted app for MEE/MET to log down stations/equipment by cell, compute monthly yield, and maintain a searchable history of actions/solutions; enabled integration with **Power BI** for forecasting and **Outlook** notifications for preventative maintenance; **improved communication** and visibility of **test health and capacity** across all managed products.
- **MEE Data Transfer ("Data Mover") Implementation:** Delivered a network-connected workstation to transfer large test files between manufacturing test stations and office PCs; coordinated multi-team ticketing and resolved networking issues; eliminated MEE commute time and accelerated test workflows.
- **Ergonomics & Safety Fixture Design:** Modeled and prototyped fixtures in **SolidWorks**, including a replacement HumiSeal protection part rebuilt from drawings (no existing 3D file) and ergonomic handle prototypes for audio cables; improved technician usability, safety, and test efficiency.
- **Floor Space Optimization (ADF/VIR Legacy):** Consolidated ADF/VIR legacy equipment into a smaller bench footprint by relocating/retiring unused instruments and troubleshooting older PCs with missing/faulty .dll dependencies; freed facility space to support a new 5G initiative.

RESEARCH

MARS (Multiple Autonomous Robot Systems) Research Lab **Edinburg, TX - Aug 25' – Present**

- Collaborating with Dr. Qi (Luki) Lu, Dr. Jinghao Yang, and MARS Lab members to develop a **fully autonomous quadcopter** for bridge/building crack detection using **computer vision** and **LiDAR sensor fusion**.
- Building the platform **from the ground up**, including a **custom flight-controller PCB** to support high-rate sensing and control integration.
- **Own the hardware** data-path requirements for a **high data-rate control loop** (sensing → estimation → flight control) to ensure reliable autonomy performance.
- Designed a **custom power-board PCB** for the **high-power compute module** running the **vision algorithm**, plus power distribution for onboard sensors.

LEADERSHIP & ORGANIZATIONS

The Rocket Launchers, Lead Hardware Engineer for Avionics **Edinburg, TX - Aug 25' – Present**
The Rocket Launchers, Telemetry Developer **Aug 21' – Jan 23'**

- **MARV (Modular Avionics for Rockets and Vehicles):** Complete Overhaul of previous system starting Aug 25', Designed **Custom Flight controller PCB**, **Radio PCB**, and **Power Distribution PCB** to allow for **Telemetry acquisition** and **Rocket Control** with future proofing for new members.
- **TAS (Telemetry Acquisition System):** Worked on PCB V1, V2, & V3 of the Rocket Launchers **first ever** Telemetry Acquisition System (TAS). **Ranked top 20** at the Spaceport America Cup; using an **RP2040** microcontroller and **LoRa transceivers**.

FSAE, Electrical Team Lead **Edinburg, TX - Aug 24' – Oct 25'**

- **Shutdown System & CAN BUS Data Logging: First-year UTRGV Formula SAE** team; led research, design, and implementation of shutdown, data acquisition, and logging systems using **CAN BUS** and **Teensy microcontroller**.