Gabriel Sanchez Rangel

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Solutions-driven Computer Engineer adept at resolving hardware/software integration challenges on tight deadlines.

EDUCATION

The University of Texas at El Paso   **El Paso, TX**

Bachelor of Science in Electrical Engineering | Overall GPA: 3.50 | Major GPA: 3.52 | 12/2024
Master of Science in Computer Engineering | GPA: 3.57 | Expected: 12/2025

Thesis Research
One Step Fabrication: Software Automated Embedded 3D Printed Circuits

LEADERSHIP & ENTREPENEURSHIP

- Partnered with a Mexican Congress member to explore open-source infrastructure for Mexico's public schools. Implemented Linux-based multiseat systems (Udev, Fedora, LightDM), eliminating proprietary licenses and reducing per-seat costs by ~90%.
- Founder of startup 3dforads.com: 500+ units sold; 25% revenue growth in 6 months; sponsored by companies. Founder of Lumolith.com.

HONORS & ACTIVITIES

- Best Senior project award: Chaotic Shift Keying Communication System, 2024 (Hardware encryption)
- Accelerated Fast Track Program: Reduced degree time by one year and saved 7,000$ in tuition, 2024
- Graduated Cum Laude, 2024
- University Honors Program & IEEE member, 2020 – 2024
- Scholarship for Monterrey Institute of Technology, 60% funded by university, 2020

WORK EXPERIENCE

W.M Keck Center for 3D Innovation   **El Paso, TX**
Master's Research Assistant   05/2023 - 08/2025

- Developed high-speed particle detection sensor in EAGLE, outperforming off-the-shelf Thorlabs sensors. Validated with smoke and particle testing. Capable of detecting changes at sub micro-second range.
- Designed custom ESP32-based PCBs end-to-end: created schematics, generated BOM and pick-and-place files, and coordinated fabrication and global shipping of finished boards.
- Developed automated shell scripts to deploy Raspberry Pi OS at scale, configuring headless SSH access and Bluetooth support out of the box.

Madera y Sus Productos (Wood Manufacturing)   **Cd. Juarez, Mex**
Engineering Consultant   07/2025 - Present

- Operated CNC machinery operation and optimized tool trajectories, doubling production speed.
- Catalyzed company's expansion from raw wood sales to manufactured goods.
- Built furniture automation software(OpenSCAD + Python), cutting CAD/CAM from hours to seconds.

Technical Keywords: C (advanced), C++, Python, PCB Design, CAD/CAM, RTOS, Git/Linux, TCP/IP, Raspberry Pi, ESP32, Bilingual (English/Spanish)