DANIEL OYERVIDEZ

Automation Engineer
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EDUCATION

Texas A&M International University
Bachelor of Science, Computer Engineering *Laredo, TX*

SKILLS

- **Programming**: Python, C/C++, MATLAB, JavaScript, HTML/CSS, SQL, Git, GitHub, JIRA
- **Automation & Robotics**: Universal Robots, PolyScope, KEYENCE RB-800, Arduino, OpenCV, machine tending, robot waypoints, digital I/O, Ethernet, CAN, I2C, SPI, PCIe, USB
- **Engineering Tools**: SolidWorks, Fusion 360, OpenRocket, 3D modeling, 3D printing, soldering, wiring, Electrical Engineering, PCB Design, Hardware Selection, System Level Integration, Oscilloscopes, Digital Multimeter (DMM), Logic Analyzers, Current Probes, Test Automation
- **Data & Research**: Data analysis, neural networks, biomedical signal processing, technical literature review

WORK EXPERIENCE

Rochester Sensors, LLC **May 2026 - Present**
Electrical Engineering Intern *Coppell, TX*
- Configure and test a Universal Robots arm with a KEYENCE RB-800 3D vision camera using Python and OpenCV, enabling reliable automated part picking and machine-tending operations through test automation.
- Develop and organize robot waypoints, pick-and-place sequences, and digital I/O handshakes in the workcell, integrating up to four processing machines into a coordinated system-level integration.
- Expanded a single-machine cycle into a scalable, automated sequence for loading, running, and unloading parts, increasing production capacity and efficiency across multiple machines.
- Troubleshoot robot motion, sequencing, and communication issues using oscilloscopes, digital multimeters, and software debugging tools, while documenting setup changes and test results to improve system reliability and reduce downtime.

Rocket Labs Technology LLC **May 2023 - Present**
Chief Technology Officer *Laredo, TX*
- Built and maintained WordPress websites on Hostinger using HTML, CSS, and SQL-based tools, delivering reliable online presences that kept client sites running with consistent uptime.
- Coordinated a small technical team to deliver website maintenance and inventory-management solutions for local businesses using HTML/CSS and digital I/O integration, improving system reliability and reducing client support tickets.
- Managed technical planning, gathered client requirements, and led deployment and system updates using C/C++ scripts and SQL databases, ensuring projects met deadlines and improving client satisfaction.

Texas A&M International University **Jun 2026 - Present**
Undergraduate Researcher *Laredo, TX*
Working paper: Quantum-Inspired Hybrid Neural Network for Biomedical Signal Classification
- Implemented binary ECG heartbeat classification on the MIT-BIH Arrhythmia dataset by extracting QRS/waveform features and labeling normal vs. abnormal beats as the ground-truth pipeline for model training
- Designed a hybrid quantum-inspired neural architecture that applied phase-encoding and pseudo-unitary layers atop a classical CNN, then compared it against a baseline CNN using accuracy, ROC-AUC, F1, and confusion matrices to quantify lift
- Owned the full research loop: literature review, dataset curation and analysis, methodology definition, model evaluation, and drafting of the working paper documenting that the hybrid model outperformed the baseline CNN

PROJECTS

Robotic Chess Arm with Emotion Recognition **Aug 2023 - Present**
- Designed and integrated an Arduino-based robotic arm, using Python for movement control, gameplay logic, and system-level coordination.
- Integrated Kinect and OpenCV-based emotion recognition to enable adaptive game difficulty and provide player feedback.

Level 1 High Power Rocket Certification **Apr 2023**
National Association of Rocketry
- Designed, constructed, and successfully launched a high-power rocket using an H- or I-class motor while following certification and safety requirements.

CERTIFICATIONS

- Level 1 High Power Rocket Certification: National Association of Rocketry, April 2023

PROFESSIONAL SUMMARY

Automation-focused Computer Engineering graduate with hands-on experience integrating Universal Robots arms, KEYENCE 3D vision, Python/OpenCV, digital I/O, and machine-tending sequences. Brings additional experience with C/C++, Arduino, soldering, wiring, CAD, troubleshooting, and applied signal-processing research. Seeking an early-career electrical engineering role focused on embedded systems, robotics, and hardware-software integration.