Diego Gerardo Sánchez Moreno

Robotics & Embedded Systems Engineer (in training)
Querétaro, México
Email: diegogerardosanchez3@gmail.com — Phone: +52 446 138 5307
LinkedIn: diego-gerardo-sánchez-moreno-73549a296 — GitHub: DiegoSanMo6011
Portfolio: diegogerardo.com

Education

B.S. in Robotics and Digital Systems Engineering   2022 – Jun 2026 (expected)
Tecnológico de Monterrey, Campus Querétaro

Research & Engineering Experience

Hybrid Soft Robotics Lab (Tec de Monterrey, Qro.)
Soft Robotics Control Platform (2024 – Present)

- Designed a bi-stable pneumatic driver with closed-loop pressure/vacuum control, safety interlocks, and real-time telemetry.
- Implemented micro-ROS on ESP32 (UART) with pressure sensing over I2C (ADS1115) and a Python SDK + GUI for reproducible experiments.
- Developed experiment workflows, logging, and MATLAB-based analysis for control data.

Patio Cinco (Querétaro) — Production Platform
Product/Systems Engineer (2025 – 2026)

- Delivered a production system for memberships, billing, and customer operations with real users and persistent fiscal data.
- Designed modular flows on Wix + Velo backed by relational data and operational logging.

Barbacoa de Miranda (Querétaro) — POS System
Product/Systems Engineer (2025 – 2026)

- Built an offline-first POS for Raspberry Pi with local queueing (SQLite) and auto-sync to backend.
- Implemented full-screen UI for fast cashier workflows and daily reporting.

Selected Projects

PuzzleBot Autonomous Mobile Robot (ROS 2)

- Integrated micro-ROS, encoders-based odometry, and YOLOv8 perception on Jetson Nano for autonomous driving.

Line-Maze Solver (Pololu 3pi+)

- Implemented PID line following with route recording and simplification to optimize traversal.

Awards & Certifications

- Best Poster Award — Exploring Soft Robotics (Dec 2025)
- NVIDIA DLI: Fundamentals of Deep Learning (Jun 2025)
- OpenCV Bootcamp (Apr 2025)

Technical Skills

- **Languages:** C++, Python, TypeScript, VHDL, MATLAB

- **Robotics/Control:** ROS 2 (Humble), micro-ROS, PID/PI, odometry, Gazebo

- **Perception:** OpenCV, YOLOv8

- **Hardware:** ESP32, Jetson Nano, Raspberry Pi, Arduino, FPGA Cyclone

- **Product/Web:** Wix + Velo, Supabase, PostgreSQL, Astro, Tailwind

Languages

Spanish (Native), English (B2)