





## Diego Gerardo Sánchez Moreno

Robotics & Embedded Systems

### Contact

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### Languages

Spanish: Native

English: B2

### Core Skills

ROS 2, micro-ROS, PID/PI

OpenCV, YOLOv8

ESP32, Jetson Nano

MATLAB, VHDL, C++

Supabase, PostgreSQL

Astro, Tailwind, Wix+Velo

# Diego Gerardo Sánchez Moreno

Robotics & Embedded Systems Engineer (in training)

Focus on soft robotics control, embedded systems, and perception for mobile robots.  
Seeking graduate studies in Autonomous Systems.

## Education

### B.S. in Robotics and Digital Systems Engineering

Tecnológico de Monterrey, Campus Querétaro

2022 – Jun 2026 (expected)

## Research & Engineering Experience

### Hybrid Soft Robotics Lab (Tec de Monterrey, Qro.)

Soft Robotics Control Platform — 2024 – Present

- Built 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).
- Delivered a Python SDK + GUI and MATLAB-based analysis for reproducible experiments.

### Patio Cinco (Querétaro) — Production Platform

Product/Systems Engineer — 2025 – 2026

- Delivered a production system for memberships, billing, and customer operations with persistent fiscal data.
- Built 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, encoder-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)