Diego Alejandro Ardila Penagos

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PROFESSIONAL SUMMARY

Electronic Engineer with experience in robotics, IoT, and automation. Diagnose and resolve failures across autonomous robot fleets and build systems that turn operational data into measurable improvements. Background in embedded systems and predictive analytics. Focused on AI-driven automation for industry.

EDUCATION

Pontificia Universidad Javeriana **Cali, Colombia**
B.S. in Electronics Engineering *June 2021 – April 2026*

- 100% Merit Scholarship • GPA: 3.5/4.0 • Focus: Robotics and Automation, Embedded Systems, Digital Signal Processing

WORK EXPERIENCE

Robot.com **Cali, Colombia**
Service Desk Robotics Engineer *June 2026 – Present*

- Provide Level 2 technical support for 500+ autonomous delivery robots (R-Kiwi) and 10+ humanoid robots (R-Top, R-Noid) on ROS2-based platforms, covering diagnosis, critical incident prioritization, SLA compliance, and follow-up through resolution.
- Built a monitoring system for fleet operations tools that records and analyzes 1,800+ executions across 243 robots. Detected a 24.7% failure rate and turned it into a prioritized improvement backlog.
- Design and implement automations with Cloud Functions, Pub/Sub, and Cloud Tasks that schedule and run fleet configuration operations, reducing manual work for the Service Desk team.

Robot.com **Orono, Maine, USA**
Operations Coordinator *July 2025 – December 2025*

- Led on-site operations for a 40-robot autonomous delivery fleet, managing real-time dispatch, incident resolution, and system performance for 1,500 monthly orders.
- Executed preventive and corrective maintenance plans for the fleet, ensuring operational availability and stability.
- Adjusted and installed electronic components, sensors, and mobility mechanisms to maintain fleet performance during the winter season.

PCA Engineering **Cali, Colombia**
Data Analyst *June 2022 – June 2023*

- Implemented machine learning models and multivariable correlation for predictive analytics on 10 distinct assets, integrated with AVEVA PI Historian for real-time analysis and operational decision-making.
- Designed Human-Machine Interfaces (HMI) with AVEVA System Platform (ArchestrA) following ISA-101, including graphic symbols and interfaces for PEMEX's Dos Bocas project (35%+ improvement in operator efficiency and system reliability).

PROJECTS

Pontificia Universidad Javeriana **Cali, Colombia**
CoMo – IoT Classroom Energy Management System (Bachelor's Thesis) *January 2026*

- Designed and implemented an end-to-end IoT system for classroom energy management and automation, using ESP8266 for real-time data acquisition, device control, and communication.
- Developed the backend (HTTP APIs, Apache, MySQL) to ingest, store, and analyze real-time energy data, with Power BI dashboards for monitoring and decision support.
- Achieved an 8.08% reduction in energy consumption through on-campus implementation and evaluation. View project

Pontificia Universidad Javeriana **Cali, Colombia**
Competitive Robotics Team – Co-Founder *March 2023 – May 2025*

- Designed and implemented embedded control architectures, custom PCBs, mechanical components, and PID-based motion control for competitive robots.
- Competed in international robotics tournaments, including Runibot.

SKILLS

Programming: Python, MATLAB, PHP, C++
Data & Automation: Pandas, Power BI, Looker Studio, BigQuery, MySQL, Cloud Functions, Pub/Sub, REST APIs
Robotics, IoT & Industrial: ROS2, ESP8266, ESP32, Arduino, Raspberry Pi, Altium, AVEVA PI System, ArchestrA
Languages: Spanish (Native), English (C1)