

NICOLAS MAHECHA

ELECTRONIC ENGINEER & LIFE SAFETY SYSTEMS SPECIALIST

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PROFESSIONAL SUMMARY

Electronic Engineer with over 10 years of experience in systems integration, low-voltage installation, and hardware troubleshooting. Florida FASA/BASA Certified with a strong track record in commercial and residential fire alarm systems, security programming, and life safety compliance. Proven expertise interpreting complex wiring diagrams, diagnosing system faults, and integrating field hardware with network infrastructure. Adept at managing client relationships and driving clean, code-compliant field installations.

TECHNICAL SKILLS

- **Fire & Security Systems:** Florida FASA/BASA Certified, Silent Knight, Honeywell (Vista), DSC (Power Series, Neo).
- **Low-Voltage & Field Work:** Structured cabling and termination (Cat6, 22/2, 22/4), blueprints & wiring diagrams interpretation, system diagnostics, conduit bending, multi-meter testing.
- **Systems Integration:** CCTV (IP & Analog), Access Control, Gate Operations, Building Automation Systems (BAS), Intercoms.
- **Networking & Protocols:** TCP/IP, BACnet, Modbus, RS-485, VLANs.
- **Software & Tools:** Python (Scripting), SQL, Technical Documentation, Field Operations Platforms (Ordenapp).

EXPERIENCE

Alarmtronics | Orlando, FL

Electronic Engineer & Low-Voltage Technician (FASA/BASA) | Oct 2024 – Present

- Execute end-to-end field engineering, installation, and programming for commercial and residential low-voltage systems, specializing in fire alarms (Silent Knight) and intrusion systems (DSC Neo, Power Series).
- Perform precise troubleshooting and system diagnostics on-site, reading electrical blueprints, wiring diagrams, and technical specifications to resolve complex faults.
- Lead the operational optimization of the Ordenapp tracking platform, improving dispatch times and tool management for field technicians.
- Ensure strict adherence to National Electrical Code (NEC) and local life safety standards through clean structured cabling and termination (Cat6, 22/2, 22/4).
- Safely operate field equipment, climb ladders, and manage company vehicle tools and inventory for daily service calls.

Ruby on Rails & IoT Developer (Various Companies: Haneke Design, Samimetrics, Dipzo) | 2018 - 2024

- Engineered IoT architectures using Raspberry Pi and microcontrollers for industrial control panels and data acquisition.
- Developed backend systems and databases to manage real-time monitoring infrastructure and sustainability tech applications.

ELCA ELECTRONIC SECURITY | Buenos Aires, Argentina

Electronic Security & Fire Systems Technician | May 2016 – Dec 2017

- Programmed and commissioned Honeywell fire alarm control panels and integrated security systems for commercial clients.
- Interpreted system layouts and executed field wiring diagnostics, reducing response times for critical alarms.
- Developed internal tracking tools to optimize field assignments, route mapping, and equipment allocation for a team of technicians.

BLUEBOX COLOMBIA | Bogotá, Colombia

Electronic Engineer | Jan 2014 – Jan 2016

- Deployed, configured, and serviced advanced residential and commercial automation networks utilizing Control4 and Insteon protocols.
- Integrated CCTV, access control, and smart climate systems, ensuring clean wire management and seamless user operation.

POWERCOL | Bogotá, Colombia

Electronic Engineer (Embedded R&D) | Jun 2012 – Dec 2013

- Firmware: Developed and debugged embedded firmware in C++ for Microchip PIC microcontrollers.
- Hardware: Designed, prototyped, and fabricated custom Printed Circuit Boards (PCBs) incorporating digital and analog components.

FEATURED AUTOMATION PROJECTS

- Autonomous RV Energy System: Designing an off-grid energy management system using ESP32/Raspberry Pi, integrating solar charging and water recycling via Modbus and MQTT for real-time monitoring.
- AI-Agent Software Agency: Utilizing Ollama and OpenClaw to orchestrate local AI agents for automated software QA and backend task management.

EDUCATION

- Master's in Sustainable Urban Technologies (Sustainable Energy Focus) | University of Buenos Aires (2016 – 2018)
- Specialization in Project Management & BI | Politécnico Gran Colombiano (2015 – 2016)
- Bachelors in Electronic Engineering | Universidad Central, Bogotá, Colombia (2007 – 2011)