

José Pablo Hernández Alonso

Mechatronics Engineer specialized in Artificial Intelligence, Robotics, and IoT

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Professional Profile

Mechatronics Engineer passionate about technology, innovation, and design. Expert in developing intelligent systems, robotic solutions, and industrial applications with Artificial Intelligence, IoT, and advanced programming. Strong ability to lead technological projects and solve complex problems in industrial and commercial sectors.

Technical Skills

- **Programming:** Python, C++, C, JavaScript, React, PHP, HTML, CSS, VHDL, Verilog, Bash.
- **AI & Machine Learning:** YOLO, Scikit-learn, TensorFlow, PyTorch, Mediapipe, OpenCV, n8n AI Agents, Stable Diffusion, LLMs, ChatGPT, Claude, Llama, Grok, DeepSeek.
- **Robotics & Automation:** Universal Robots, KUKA, FANUC, Siemens PLC, TIA Portal, SCADA systems.
- **Embedded Systems & IoT:** Raspberry Pi, NVIDIA Jetson, Arduino, ESP32, FPGA, sensors, and actuators.
- **CAD Design & Simulation:** SolidWorks (CSWP), Fusion 360, AutoCAD, MATLAB, CATIA, 3D Printing, CNC, HAAS, CAM, NX.
- **Additional Tools:** Docker, Firebase, SQL, XAMPP, Flask, GitHub, AWS, CISCO, Node.js, Adobe Suite, MS Office Suite (MOS), Excel, and Visual Basic.

Professional Experience

Palloranlabs Mexico | 2025 - Present

Founder of a startup for engineering projects

- Foundation and management of a startup focused on engineering projects, automation, and applied technological solutions.

ERP System ALARO - AI & Technology Lab | 2023 - Present

Development of Artificial Intelligence, automation, and embedded systems solutions

- Development of comprehensive Artificial Intelligence solutions to optimize commercial and operational processes in administration, supermarkets, transport, and logistics.
- Design of predictive Machine Learning models to improve decision-making.
- Development of digital automation applications with APIs and embedded systems.

Freelance Projects | 2017 - Present

Web development, technical support, and installations

- Web development and advertising campaigns.
- Installation, diagnosis, and maintenance of computer equipment.
- Residential and institutional plumbing and electrical installations.

Key Academic Projects

- **μSenseGrip** (View Project): Commercial design of robotic grippers with force control and internet communication.
- **Stable Diffusion to Gcode - UR5e** (View Project): Line drawing using a UR5e robot with Gcode generated from AI-generated images.
- **UR5e SRUB NURSE** (View Project): Operation of a UR5e collaborative robot using computer vision, conversational AI, and commands.
- **Industrial Robotics & Automation** (View Project): Industrial SCADA automation system for UR, KUKA, FANUC robots, and PLCs.
- **NASA Space Apps Challenge 2024** (View Project): Interactive Orrery mapping celestial objects and asteroids.

Education

Universidad Iberoamericana Puebla | 2020 - 2025

B.S. in Mechatronics Engineering

Specialization: Artificial Intelligence, Robotics, and IoT.

Instituto México de Puebla | 2017 - 2020

High School & Electrical Technician Degree

Awards & Honors

- GPA 4.0.
- Ceneval Medal (Outstanding Performance).
- Best GPA Medal, IBERO Francisco Clavijero.
- Medal for Human and Competent Development, IBERO Diego de Ledesma S.J.
- Highest graduating GPA of the School of Engineering, recognized by ANFEI.

Selected Presentations

- II SUJ Engineering Congress 2025.
- XIV National and International Congress of Technology Applied to Health Sciences.
- Expo IBERO 2025, 2024, 2023, 2022 and 2021.
- 2024 IEEE International Conference on Engineering Veracruz (ICEV).
- Fab 2024 (Fab Academy).

Soft Skills & Languages

Soft Skills: Project management; teamwork and leadership; creative problem solving; technical and assertive communication; adaptability and continuous learning.

Languages: Spanish (Native); English (C1); German (B1).