

Iván José Pérez Carrera

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Profile

Mechatronics Engineering student focused on embedded systems, electronics, and hardware development. Experienced in PCB design, sensor integration, microcontroller-based systems, and hardware prototyping MC platforms.

Education

Unidad Profesional Interdisciplinaria en Ingeniería y Tecnologías Avanzadas (UPIITA-IPN) Mexico
Bachelor's in Mechatronics Engineering Jan 2021 – Present
GPA: 9.2/10.0 Expected Graduation: Jan 2027

AGH University of Krakow Krakow, Poland
Exchange Student — Faculty of Metals Engineering and Industrial Computer Science Feb 2025 – Jun 2025

Lead to Build – StartUB! Barcelona, Spain
Entrepreneurship & Leadership Program — University of Barcelona Jul 2026 – Aug 2026

Experience

Embedded Hardware Development – Black Box Engineering Project Gulf Blue Concepts
2026

- Collaborated directly with Gulf Blue Concepts on the development of the “Black Box” automotive hardware platform.
- Designed PCBs integrating an ESP32-S3, GPS, inertial sensing, sensors, actuators, power distribution, and external automotive peripherals.
- Contributed to enclosure design and product preparation for manufacturing, identifying potential issues and proposing practical improvements to reliability, integration, and manufacturability.

Laser Distance Sensor Validation (VL53L0X) Sep 2025

- Assembled and tested custom electronic boards integrating VL53L0X time-of-flight distance sensors.
- Validated sensor accuracy by comparing measurements against a commercial reference sensor and calculating measurement error.
- Diagnosed faulty components and assembly issues through systematic electrical testing following PCB assembly and manual soldering.

Leadership & Activities

Robotics Association of UPIITA (AR-UPIITA) Aug 2022 – Present
Active Member

- Collaborated in robotics projects involving electronics, embedded systems, mechanical design, integration, and testing.
- Participated in national and international robotics competitions.

Winner of “Programa de formación de líderes 2026” Barcelona, Spain
Lead to Build – StartUB! Jul 2026 – Aug 2026

- Led a multidisciplinary team in developing a startup concept, coordinating technical, business, and presentation tasks.

Skills & Interests

Embedded Systems: ESP32 Microchip STM32 platforms, low-power applications, sensor integration.

Electronics & Hardware: PCB design, schematic design, prototyping, debugging, power regulation, and electronic testing.

Programming & Tools: C/C++, Arduino framework, Python, MATLAB, SolidWorks, Altium EasyEDA.

Soft Skills: Problem-solving, multidisciplinary teamwork, technical communication, hardware debugging, leadership.

Languages: Spanish (Native); English (B2 – TOEFL ITP, 2026).

Interests: Embedded systems, PCB design, automotive electronics, IoT, robotics, hardware product development.