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Profile

Mechatronics Engineering student with experience in data analysis, engineering simulations, and sensor-based systems. Skilled in processing and visualizing technical data using Python, SQL, Excel, MATLAB, and Power BI, with experience evaluating system performance and supporting engineering decision-making.

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

Preventive Maintenance Analytics Dashboard 2026

- Generated, cleaned, and structured a synthetic manufacturing maintenance dataset using Python and Excel, covering equipment status, downtime, repair costs, and maintenance events.
- Built interactive Power BI dashboards to identify critical equipment, visualize downtime and recurring failure patterns, analyze maintenance costs, and support maintenance prioritization.

Academic Projects – Data Analysis & Control Systems Jan 2026

- Analyzed desired versus measured RPM data to evaluate transient response and steady-state error using MATLAB and Simulink.
- Designed and tuned a PID controller and compared system responses under different operating conditions.
- Visualized control-system behavior through Simulink dashboards and graphical interfaces.

Neural Network-Based Letter Recognition System Jan 2026

- Organized and preprocessed structured datasets for neural network training and evaluation.
- Implemented neural network models in MATLAB and Python for pattern recognition and classification.
- Compared model outputs across multiple test cases to evaluate classification consistency.

Leadership & Activities

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

- Collaborated in robotics projects involving electronics, design, data collection, 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

Data Analysis: Data cleaning, preprocessing, visualization, technical data interpretation, maintenance analytics, and performance analysis.

Programming & Tools: Python, SQL, MATLAB, Excel, Power BI, Simulink.

Engineering: Control systems, PID controllers, sensor data analysis, simulations, neural networks.

Soft Skills: Analytical thinking, problem-solving, teamwork, technical communication, leadership.

Languages: Spanish (Native); English (B2 – TOEFL ITP, 2025).

Interests: Data analytics, manufacturing analytics, automation, control systems, applied AI.