

Edgar Ivan Hinojosa Saldaña

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EXPERIENCE

Department of Physics, FCFM

Jan. 2025 – Dec. 2025

Laboratory Technician and Instructor

- Design and implementation of experimental setups using precision sensors adapted with microcontrollers.
- Delivery of undergraduate laboratory courses in classical mechanics and assistance in electrodynamics laboratories.
- Calibration, validation, and maintenance of laboratory instrumentation.

CICFIM – UANL

Jan. 2024 – Dec. 2025

Research Assistant

- Design and prototyping of scientific equipment using open-source software and low-cost materials while maintaining satisfactory precision.
- Development and experimental validation of mathematical and physical models with accuracies up to 85%.
- Programming of automated pipelines for data processing, report generation, and interactive graphical interfaces.

PROJECTS

Laser-track

- Development of an image-processing tool for user-guided extraction of laser beam trajectories to study their geometric properties.
- Algorithms inspired by physical modeling and implemented through an interactive graphical interface.

Hydrodynamics Experimental System

- Design and prototyping of a low-cost scientific apparatus for controlling surface waveguide curvature through hydrodynamic vorticity.

EDUCATION

Universidad Autónoma de Nuevo León

Aug. 2021 – Dec. 2025

B.Sc. in Physics

- **Relevant Coursework:** Scientific Modeling, Probability and Statistics, Experimental Design
- **Honors:** University Talent Program Scholarship (2021)

COURSES AND CERTIFICATIONS

Statistical Learning

Jun. 2024 – Aug. 2025

Stanford Online (MOOC)

- Linear and classification models, unsupervised learning, and fundamentals of deep learning.

Summer School: Modeling and Data Analysis Tools

FCFM, UANL

- Statistical programming in R, traditional statistical methods, and computational analysis libraries.

TECHNICAL SKILLS

Programming Languages: Python, R, Bash, Mathematica

Data & Modeling: data analysis, statistical modeling, automation, visualization

Instrumentation & Design: sensors, microcontrollers, AutoCAD, Onshape