

Eduardo Hernández Valdez

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EDUCATION

Instituto Tecnológico y de Estudios Superiores de Monterrey
Engineering in Robotics and Digital Systems; Avg 90.26/100

Monterrey, México
June 2026

PrepaTec Eugenio Garza Lagüera
High School Diploma; 90/100

Monterrey, México
Aug 2019 – Jun 2022

RESEARCH EXPERIENCE

VantTec - Self Driving Vehicle

Monterrey, México

Embedded and Electronics Research and Development Team Leader

Jan 2023 – Present

- Worked on pcb design regarding the vehicle's security and redundancy system requirements, using KiCAD. Translated prototypes to pcb boards needed as functional systems inside the vehicle. (STM32, Electric circuitry)
- Created a "from-scratch" python library to receive data from CANbus based sensors, such as rotary encoders and radars. To be used for the vehicle as an interface through ROS 2. (Briter Encoder, Ainstein T-79 Radar)
- Create documentation regarding the vehicles already existing subsystems in order to integrate them into the autonomous arrangement, and assure the project's future continuation.

VantTec - Unmanned Surface Vehicle

Monterrey, México

Perception Research and Development Member

Aug 2022 – Present

- Created datasets for the training of a neural network to detect and classify objects in water, aiding to the vehicle's self navigation for the Roboboat competition, and published the results as an academic paper, participating at a recognized engineering expo.
- Developed on-demand computer vision algorithms regarding the vehicle's needs in each section of the competition using OpenCV and ROS 1. (Dice number and color recognition, special symbology recollection, etc)
- Arranged environment running on specialized hardware to support the vehicle's perception system. (Nvidia Jetson TX2, Raspberry Pi)
- Worked on a platform to support the boat's shooting system using ROS2, modelling the system using Gazebo.

WORK EXPERIENCE

Freelance

Remote

General Purpose Programming – <https://www.fiverr.com/eduarch42>

Summer 2019, 2020, 2021, 2022

- Developed solutions in various fields, including Data Science, Backend Development, GUI Desktop Applications, with an overall 4.9/5 rating.

AWARDS & ACHIEVEMENTS

HackMTY 2022 Hackathon - 1st Place - Hardware box designed to store online identity, passwords, crypto, profiles.

HackMTY 2023 Hackathon - Honoric Mention - Edge LLM implementation of PDF indexing with source citing.

International Collegiate Programming Contest – Top 7 within ITESM MTY.

International Science Competition @ ITESM – Finalist in Computer Science category.

AWS Deep Racer – Participation in the AWS Deep Racer League and first generation at ITESM.

SKILLS

Programming: *Proficient;* Python, Go. *Intermediate;* C, Rust, Javascript, Matlab. *Beginner;* C++

Technologies/Software: Linux, Docker, GNU Debugger, (C)Make, Git, KiCAD, ROS[1,2], FreeCAD, OpenCV

Languages: Spanish (Native), English (B2 - PTEG), German (Elementary)



LinkedIn



Github



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