Eduardo Hernández Valdez

+52 81 1237 3193 | eduarch42@protonmail.com | LinkedIn | GitHub | Mty, MX

Education

Instituto Tecnológico y de Estudios Superiores de Monterrey — Monterrey, México
Engineering in Robotics and Digital Systems; ***Avg 90.26/100*** — *June 2026*

PrepaTec Eugenio Garza Lagüera — Monterrey, México
High School Diploma; ***90/100*** — *Aug 2019 – Jun 2022*

Research Experience

VantTec - Self Driving Vehicle — Monterrey, México
Embedded and Electronics Research and Development Member — *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.
- Worked with clients from more than 10 countries around the world.

Awards & Achievements

HackMTY 2022 Hackathon – 1^{st} Place in Chubb's sponsored challenge.
Hackathon Banorte 2023 – Finalist team.
International Collegiate Programming Contest – Top 7 within ITESM MTY.
Concurso Internacional de Ciencias – Finalist in Computer Science category.
AWS Deep Racer – Participation in the AWS Deep Racer League and first generation at ITESM.

Skills

Programming: *Profiecient;* Python, Go. *Intermediate;* C, Rust, Javacript, 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 PDF