

# Larralde Ortiz, Emmanuel Alejandro

ealarralde@gmail.com

<https://l4rralde.github.io/>

<https://orcid.org/0009-0009-0938-3603>

## PROFILE

---

I am a Mechatronics Engineer eager to pursue a MS in Computer Science with expertise in Design Verification gained through roles at Intel. My experience includes working collaboratively in international teams, demonstrating both teamwork and leadership skills. Passionate about science, I am a freelance research assistant, leveraging my skills to contribute to cutting-edge projects. Finally, I am competent in Python and C/C++.

## WORK EXPERIENCE

---

### Intel Corporation

- **Hardware Engineer**

(February 2023 – Today)

Software development (python and C++) of a fine-grained simulator of the Branch Predictor Unit of a new x86 CPU microarchitecture and the development of tools for performance analysis using Jupyter Lab, pandas, matplotlib and NumPy.

- **Technical Graduate Intern**

(January 2022 – January 2023)

Design Verification of the hardware accelerator for video compression (H.264, AV1, JPEG) of a Datacenter microprocessor.

### Centro de Investigación en Matemáticas A.C.

- **Robotics Software Engineering Intern**

(August 2022 – February 2023)

Development of autonomous driving software stacks for quadcopters and mobile robots.

## SKILLS

---

### PROGRAMMING LANGUAGES

Python	Advanced
C/C++	Proficient
MATLAB	Proficient
Kotlin	Beginner

### TECHNOLOGIES

*Development:* Linux, Git & GitHub, OOP, Design Patterns, Docker, Android Studio.  
*Embedded Systems:* Microcontrollers, FPGAs, SBCs, embedded Linux, lab equipment.  
*Robotics:* OpenCV, PyTorch, ROS, Gazebo Sim, NVIDIA Jetson, SolidWorks, Simulink.

**SOFT SKILLS:** *Self-taught, Responsibility, Openness to feedback and Teamwork.*

**LANGUAGES:** *English (B2+), French (A1), Spanish (Native).*

## MAJOR PROJECTS

---

### DonkieTown

2022

A low-cost experimental platform for research on Automated and Connected Vehicles.

- GitHub repository: <https://github.com/L4rralde/DonkieTown>
- IEEE paper: <https://latam.ieee9.org/index.php/transactions/article/view/7756>

## EDUCATION

---

### Instituto Politécnico Nacional (UPIITA)

BE, Mechatronics Engineering.

August 2017 – December 2022  
GPA 94/100

### Centro de Investigación en Computación

Graduate courses in Computer Science.

September 2020 – June 2021  
GPA 100/100

## AWARDS

---

First place at Mexican Tournament of Robotics (2023).

Finalist candidate for the International Physics Olympiad (2017).

First place at Samsung's Solve for Tomorrow contest (2018).

Silver Medal in the National Physics Olympiad (2016).