Emmanuel Alejandro Larralde Ortiz

Bachelor's degree in Mechatronics Engineering

ealarralde@gmail.com +52 1 753-110-4089 https://l4rralde.github.io/ https://www.linkedin.com/in/emmanuel-l-949856129/

PROFILE

My name is Emmanuel Larralde, and I am about to get graduated from Instituto Politecnico Nacional with a bachelor's degree in mechatronics engineering. I am also concluding an internship at Intel Guadalajara Design Center as a pre-silicon engineer, in my role I am in charge of the testing execution on hardware accelerators for datacenter processors. I am interested in digital circuits design and autonomous mobile robotics.

WORK EXPERIENCE

Pre-silicon Engineering Intern **Intel Corporation** **(January 2022 - current)**

- Programming and planning tests in System Verilog to fulfill validation roadmaps.
- Developing Shell, Python and Perl scripts to automate reporting, regressions, and failure detection tasks.
- Working hand to hand with engineering teams for debugging and troubleshooting bugs and validation execution.

Interests: Programming, Bus protocols, Interconnect architectures and Synthesizable RTL.

SKILLS

SOFT SKILLS

Listening, Creativity, Willingness to learn, Innovation, Problem-solving, Motivating, Collaboration, Enthusiasm, Honesty, Empathy, Dedication, Accepting feedback, Self-awareness.

PROGRAMMING LANGUAGES

5 years:	C/C++
4 years:	Matlab
3 years:	Python
2 years:	Verilog, VHDL

TECHNICAL SKILLS

TECHNOLOGIES

Robot Operating System, Advanced Sensors, OpenCV, Unix shells, Git, SolidWorks, ANSYS, 3D printing, Latex, FPGA, RISC-V and ARM Computer Architectures, Microcontrollers, Spice, PCB Design.

MAJOR PROJECTS

PPA 2016 – 2019

An assistance device for caretakers of people with dementia.

- Inspired by a personal concern. Started as a Scholar project represented by a team of three people.
- Samsung Awarded this project and invited the team to Consumer Electronics Show 2018.
- "Invisible" electronic system connected to Cellular Networks and configurable via a mobile app.

Interests: Internet of Things, App development, Consumer Electronics.

πstache Fall 2020

A Single-Issue In-Order pipelined processor.

- Executes the 32-bits subset of RISC-V Instruction Set Architecture.
- Written from scratch in Verilog. Designed with four stages, data forwarding, hazard control and a static branch predictor.
- Source code available at: https://github.com/L4rralde/Arquitectura-de-Procesadores

Interests: Computer Architecture, RISC-V, RTL Design.

DonkieTown In progress

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

- Testbeds for multiple scaled-size vehicles with an absolute localization system, "Pedestrian" Detection, self-driving architectures, and Vehicle-to-Vehicle communication based on state-of-the-art standards.
- Project available at: https://github.com/L4rralde/DonkieTown

Interests: Mobile Robotics, Self-driving cars, Data sensor processing.

Education

Unidad Profesional Interdisciplinaria en Ingeniería y Tecnologías Avanzadas del Instituto Politécnico Nacional Graduating in December 2022

Bachelor of Science in Mechatronics Engineering GPA 94/100

Centro de Investigación en Computación del Instituto Politécnico Nacional Fall 2020 – Summer 2021

Domestic Mobility Program with emphasis in Computer Architecture

AWARDS

First place at Samsung's Solve for Tomorrow contest (2018).
Finalist candidate for the International Physics Olympiad (2017).
Silver Medal in the National Physics Olympiad (2016).
Honorable mention in the Interstate Mathematics Olympiad (2016).