

GONZALO G. FERNANDEZ

Mechatronics Engineer | Firmware/Software Engineer

Fields of interest: Embedded systems, robotics and control theory

Programming languages: C, Python, Bash, Verilog

Technologies: Linux, AVR, STM32, FreeRTOS

Tools: Git, Matlab, KiCAD, STM32CubeMX, Vivado, SolidWorks

Language: Spanish, English

Córdoba, Argentina

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Mechatronics and software engineer interested in the design and development of software and firmware for embedded systems and robotics. Looking for an opportunity to start a career in the robotics industry.

Experience

Firmware QA Software Engineer - Marvell Technology - Córdoba, Argentina

Oct 2022 - Now

- Software development for a firmware QA automation platform. Understanding of complex systems for its testing.
- Recruitment interviews and technical training of new team members. Communication with firmware developers.

Engineering internship - Simen Rayos X - Mendoza, Argentina

Jan - Oct 2020

- Analysis, design, modification, assembly and documentation of PCBs for X-ray equipment.
- Use of KiCAD software. Programming of PIC and AVR microcontrollers (8/16 bit). I2C protocol analysis.

Education

Master degree in Embedded Systems - Universidad de Buenos Aires - Remote

Feb 2023 - Now

- Currently in the Specialization in Embedded Systems, first year of the Master degree.
- Working in the design of a differential mobile robot prototype as platform for SLAM with ROS 2 through micro-ROS.

Mechatronics engineering - Universidad Nacional de Cuyo - Mendoza, Argentina

Feb 2015 - Aug 2022

- Graduated with GPA of 8.83 out of 10.
- PFE: End-to-end development of a dual-SCARA parallel robotic manipulator.

Semester abroad - Universidad El Bosque - Bogotá, Colombia

Feb - Jun 2022

- International study exchange scholarship in the Systems Engineering program.
- Courses on Compilers, Intelligent Systems, Microprocessors and Assembly, and Operating Systems.

Research & Projects

Development of a dual-SCARA parallel robot - Universidad Nacional de Cuyo

Feb 2019 - Aug 2022

- Type C research project of the Universidad Nacional de Cuyo. Mechatronics Engineering degree thesis.
- Design, manufacturing, simulation, and control of dual-SCARA parallel robot. Mainly involved in the mechanic design.

Sun tracking system for parabolic solar collector - Universidad Nacional de Cuyo

Jul 2019 - Aug 2022

- Collaboration in PhD on the design and construction of a sun tracking system for a parabolic solar collector.
- Embedded system design, previous software integration on Raspberry Pi and mechanical prototype design.

Optimal LQG controller design for self-balancing robot - Universidad Nacional de Cuyo

Dec 2020 - Oct 2021

- Project of the subject Control Systems. Poster in the XIX Working Meeting on Information Processing and Control.
- Self-balancing robot analysis and LQG optimal controller design with MATLAB Simulink and Simscape Multibody.

FreeRTOS in EDU-CIAA for robotic arm control - Universidad Nacional de Cuyo

Oct 2020 - May 2021

- Robotic arm control using FreeRTOS on the EDU-CIAA development board (Argentine open-source platform).
- NXP microcontroller LPC4337: dual core ARM Cortex-M4F and Cortex-M0.

Courses

Advance Digital Design - Fulgor Foundation - Cordoba, Argentina

Aug - Dec 2022

- Organized by the Fulgor Foundation and dictated by Dr. Ariel L. Pola, 75 hours long.
- Advanced concepts of digital design in FPGA and VLSI for application in DSP systems.