Mariano L. Acosta

Electronics Engineer & Programmer

Engineer with 8 years of programming experience. Worked in diverse industries, including Embedded Software design, Power Electronics, Digital Electronics and Printed Circuit Board manufacturing. Published several papers in IEEE about Algorithms, Machine Learning and Signal Processing. Fulbright Alumni. Currently making a career change into Software Engineering through online courses and personal projects.

Education

2012 - 2018

Degree in Electronics Engineering

University of Mar del Plata (UNMDP)

- Coursework: Control Systems, Electronics Instrumentation, Signal Processing, Circuit Design, Communications & Data Networks
- Additional courses: Computational Intelligence, Applied Robotics, Operations Research, FPGA Design, Microcontrollers.

2017 - 2017

Fulbright Scholarship - Exchange Student

Virginia Tech - United States

- Intensive, 200hs English course at VTLCI
- Attended to university courses in Electrical and Computer Engineering

Experience

2020 - Present

React JS Tutor

Coderhouse

- Taught and assisted students with HTML, CSS, Javascript, APIs, React.js, Node.js, CLI, NPM, Firebase, GIT version control and project management.
- Taught how to build an e-commerce app from scratch. Graded assignments.

2018 - 2019

Power Electronics Engineer

Lyrtron S.A.

- Developed Stress and Worst Case Circuit Analysis (SWCCA) in Power Inverters and Power Optimizers.
- Used gallium nitride (eGaN) and Silicon Carbide (SiC) transistors.
- Worked for clients such as Advanced Energy (USA) and AMPT (USA).

2016 - 2018

Embedded Systems Engineer

ICyTE

- Developed a Compressed Sensing System in a Xilinx ZYNQ 7000 SoC.
- Travelled to Trieste, Italy, for an intensive workshop in SoC design (ICTP)
- Coded in C/C++, VHDL and Xilinx HLS.
- Created a Graphic Interface in Python with Network Capabilities
- Designed and Built a Delta/Sigma Digital-to-Analog converter.

2016 - 2016

Avionics Engineer (Internship)

INVAP S.E

- Developed a Printed Circuit Board for an aerospacial system
- Used Microsemi FPGA Pro ASIC3 (CCGA).
- Studied the CCGA technology, footprint, and solder requirements.
- Designed the circuit layout in Altium Designer.

2014 – 2017

Professor Assistanship in Experimental Physics

UNMDP

- Taught, designed and graded Laboratory assignments.
- Regular status obtained by contest

Published Papers

2016 - 2019

- Hybrid sorting algorithm implemented with HLS (ISSN: 1548-0992)
- Compressed Sensing System for 16x sub-Nyquist DSP (ISBN: 978-1-7281-1404-0)
- Signal Processing System with Xampling (ISBN: 978-1-5090-6286-7)
- Neural Network for Robotic Arm Control in Fixed Point (ISBN: 978-987-45523-8-9)
- FM Audio Synthetizer with Genetic Algorithms (ISSN: 1850-2776)

Personal Info

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Personal Website
mlacosta.github.io

Github
github.com/mlacosta

Linkedin
linkedin.com/in/mlacosta

Languages
Spanish (Native) | English (Proficient)

Birthdate
13 August 1993 (27 years old)

Skills

Programming
C/C++, C#, Java, Javascript, GIT Version Control, Python, Matlab, Bash Shell

Fullstack Web Development
APIs, HTML, CSS, Express.js, Git, Javascript, MongoDB, Mocha & Chai, Netlify, Node JS, npm, OAuth, React.js, SQL, Test-Driven Development.

Machine Learning
Deep Learning models, Genetics Algorithms, Fuzzy Logic, Convolutional Networks, LSTM Networks, Keras, Tensorflow, Pandas, Numpy, Scikit-Learn

Embedded Systems
SoC, FPGA, Microprocessors, VHDL, Xilinx Vivado, STM32,

Audio & Signal Processing
Ableton Live, Algorithmic Composition, Control Systems, DSP, JUCE, Music Production, VST development

Honors & Awards

Friends of Fulbright Scholarship

Second place at JAIIO 45 | National contest in Computer Science

Oustanding work at CASE 2019 | Embedded Systems Conference

Online Courses

Full-Stack Engineer | Career Path
Codecademy

Algorithms Specialization
Stanford Online

Deep Learning Specialization
Coursera

Software Construccion in Java
MITx