**ALAN RÍOS ROMERO | MECHATRONICS ENGINEER**

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**EDUCATION**

**M.S. in Instrumentation and Control, 2016**.

Autonomous University of Queretaro (UAQ)

**B.S. in Mechatronics Engineering, 2014**.

Technological Institute of Celaya (ITC)

Relevant Coursework: LabVIEW, CATIA V5.

**PROFESSIONAL EXPERIENCE**

**Project Engineer – Process Control and Engineering.** Queretaro, Mexico, 5/2018 – present day

- Lead and develop projects.

- Requirements capture for designs.

- Project management quotes.

- PCB design and manufacture.

- Implementation of algorithms in SoC systems.

- Find and fix bugs in microcontrollers.

- FPGA SoC/VHDL programming.

- Design simulations.

- Project documentation.

- Code improve.

- Develop embedded software with Python and C/C++.

- Client support.

**Project Engineer – Process Control and Engineering.** Leon, Mexico, 2/2018 - 5/2018

- Allen-Bradley and Siemens PLC/HMI programming.

- Electrical design with AutoCAD Electrical.

**Project Engineer Jr - CIDESI.** Queretaro, Mexico, 7/2017 - 12/2017

- Allen-Bradley and Siemens PLC/HMI programming.

- Electrical design with SolidWorks Electrical.

- Automotive projects.

- Sensor selection and quotes.

- Computer vision applications with Cognex cameras.

- UR robots programming and simulation.

- Project management quotes.

**PROJECTS**

**Creator & Teacher - Epic Devs.** Mexico, 12/2016 - 12/2017

- Started own project of promoting STEM to low-income kindergarten and elementary schools.

- Worked with a team to perform 52 demo shows and gave 6 courses that reached up to 1400 students.

**Programmer & Electronics Designer - IPN CubeSAT.** 2015 - 2017. Launched at Nevada’s Desert.

- Used ARM mbed, UDOO, Odroid, C and Python. (<https://andream.com/cubesat/>).

- Programmed different kind of sensors (humidity, temperature, IMUs, UV radiation, gases, voltage, etc.) and used different protocols (i2c, UART and SPI).

- Designed multiple PCBs (using KiCad) that included the connections of all sensors and boards.

**Developer of Amazon Alexa Skills.** 8/18 - 12/18

**-** Created 3 different Alexa Skills (Video games using voice commands) with more than 4k users using Python & AWS (Node.js). Participated at Amazon Alexa Tech for Good Challenge.

**FPGA Programmer - Biped Robot.** 1/18 - 8/18

- Programmed a Robot made with 8 servo motors using Verilog with an Altera MAX 10 FPGA.

**PUBLICATIONS**

- **Article**: Methods for the estimation of water in plants with FPGAs.

- **Presentation:** Methods for the estimation of water in plants with FPGAs. Queretaro, Mexico.

**SKILLS**

- **Programming Languages:** C, Python, C++, VHDL, Matlab, LabVIEW, Java, HTML, SQLite.

- **Software:** SolidWorks Electrical, AutoCAD Electrical, Altium Design, Eagle, Proteus, GIT, Quartus and Multisim.

- **Hardware:** PIC, Arduino, Altera and Xilinx FPGAs, Raspberry Pi. SPI, i2c, UART protocols, PCB Design.

- **Languages:** English, Spanish.