Julian Irizarry

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Portfolio: https://julian-irizarry.github.io

EDUCATION:

The Ohio State University, Columbus, OH — GPA (4.00 Scale): 3.2
B.S. Electrical Engineering, May 2022 — Dean's List (>3.5 GPA) 2 semesters

United States SECRET Security Clearance, January 2017

TECHNICAL EXPERIENCE:

Cryptic Vector, Cincinnati, OH
Embedded Software and Electrical Engineering Intern, May 2021 – Present

- Built a Linux distribution using Digi Yocto and moved the image to a system-on-module through a TFTP server
- Configured the device tree blob to disable a Bluetooth chip freeing up an otherwise unusable UART
- Implemented object-oriented programming to write drivers in C to control various peripherals over UART and SPI
- Used ZeroMQ and Google Protocol Buffers to receive commands via a web server
- Constructed a test fixture by mounting two SOMs and three peripheral devices on an ESD board, along with removing ICs on the SOM and soldering magnet wires to exposed pads under a microscope to receive access to UART Tx/Rx

The Ohio State University, Columbus, OH
Machine Learning Research Assistant, May 2021 – Present

- Joined a graduate research group of material science engineers to use machine learning
- Aided the creation of a dataset by referencing past weld susceptibility papers and identifying important features
- Managed a limited real-world dataset containing missing data, value ranges, and inconsistent formats
- Applied regression and classification neural networks to predict alloy weld susceptibility to cracking

PROJECTS AND ACTIVITIES:

Buckeye Space Launch Initiative (Rocket team), Active member

- Developing a remote control 'rover' for the OSU rocket team

OSU Artificial Intelligence club, Active member

- Created a model that calculated NFL play success using play-by-play data and various statistical concepts, such as logarithmic regression

Mental Health Hackathon and MAKE/IO Participant, 2021

- Won runner-up for best data insights by taking survey data and classifying participants using a neural network
- Created a system that uses object detection to remind doctors to wash their hands when exiting the room

MILITARY EXPERIENCE:

The United States Army Operation Noble Eagle, Washington D.C
Forward Air Defense Systems Specialist, September 2018 - August 2019

- Led a 4-person team on a no-fail mission to protect the President of the United States' and other VIPs' movements
- Collaborated with crew members to provide communication links and radar surveillance for missile systems, ground forces and command centers via line of sight and telecommunication systems
- Coordinated real-time troubleshooting with individuals and agencies in multiple locations to correct and maintain mission-critical data connectivity
- Analyzed raw radar coverage data to assess potential issues and presented findings to superiors and technicians

QUALIFICATIONS:

- Technical Coursework: Scientific Computing, Machine Learning, Real-Time Robotics Systems, Electronics, RF Optical Engineering, Microcontrollers, Digital Logic, Analog Systems and Circuits, Electronic Devices
- **Software:** Linux, Windows, UNIX, Git, GitHub, ROS, MATLAB, C, C++, Python, Solidworks, AutoCAD Electrical, Java, Excel, Word, PowerPoint, VHDL, Quartus Prime, LTSpice, Code Composer Studio, Office Suite
- **Hardware:** Oscilloscope, Function Generator, Multimeter, Spectrum Analyzer, Waveform Generator