

# Pedro J. Fernandez

## Software Engineer

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## Relevant Experience

### Runtime Modifications Developer @ Independent

January 2019 – Present // Ohio, USA, Remotely

- Built multiple extensions that modified different iOS frameworks at runtime.
- Reversed engineered private frameworks such as SpringBoard, UIKit, and InCallService.
- Designed, implemented, and supported extensions that were published on jailbroken software marketplaces.

### Graduate Teaching Associate @ Ohio State University

January 2021 – May 2021 // Ohio, USA, Remotely

- Worked as a teaching assistant for the ECE5553 Autonomy in Vehicles graduate course.
- Hosted office hours via Zoom meetings to answer any course-related questions.
- Graded student assignments and projects.

### Software Engineer Intern @ Qualcomm

May 2020 – August 2020 // Ohio, USA, Remotely

- Utilized natural language processing (NLP) techniques to predict possible fixes for crashes based on events, call stacks, errors, etc. and previous change requests.
- NLP techniques included tokenization, lemmatization, transformers, simple ML models, etc.

### Software Engineer Intern @ Qualcomm

May 2019 – August 2019 // San Diego, USA

- Automated post-processing video analysis by determining the similarity between two input videos from a webcam recording.
- Applied computer vision and image processing techniques such as feature extraction and matching and object detection.

### Software Engineer Intern @ Qualcomm

June 2018 – August 2018 // San Diego, USA

- Developed a multithreaded framework with distributed computing capabilities to enable large scope data parsing and analysis of Cellular Vehicle-to-Everything (C-V2X) to identify optimizations.
- Implemented the framework using Python, SQL, Apache Spark and Qualcomm's internal programs and tools.

### Software Engineer Intern @ Honeywell Aerospace

June 2017 – August 2017 // Aguadilla, Puerto Rico

- Implemented new labels of a second ARINC-429 Configuration Table in an Embedded Global Positioning System/Inertial Navigation System (EGI) for a Boeing 737 Airborne Early Warning and Control (AEW&C).
- Learned, modified, and enhanced code using Ada programming language.

## Education

### Ohio State University

2019 – 2021 // Ohio, USA

M.S. in Electrical and Computer Engineering

### University of Puerto Rico

2013 – 2018 // Mayagüez, PR

B.S. in Computer Engineering

## Skills

### Programming Languages

Python, C, Objective-C, C++, HTML, CSS/Sass, MATLAB

### Libraries & Frameworks

NumPy, Pandas, CARLA, ROS, Sklearn, OpenCV, Node.js, SpringBoard, UIKit

### Tools & Platforms

Git, Linux, Windows, Unreal Engine 4, Autoware, Photoshop

## Latest Projects

### Scorpion

Unobtrusive iOS stock call UI replacement. User customizable incoming and in-call controls.

### Linden

Master's thesis work that focused in providing a realistic real-life based simulation environment for developing and testing autonomous driving algorithms.

## Interests

The unknown, beaches, computers, jailbreaking, gaming