

Emmanuel J. González Morales

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EDUCATION

- University of Puerto Rico Mayagüez UPRM** Mayagüez, PR
 - B.S. in Software Engineering with minor in Project management; GPA: 3.50* **Expected Grad: May 2025**
 - Courses: DB, OS, Computer Networks, Data Structure & Algorithms, Software Design/Testing/Requirements, Algorithm Design*
- Google Tech Exchange | Google Tech Exchange Scholar** Remote
 - Courses: Applied Data Structure, Software Development Studio, Careers in Tech* Jan 2023 - May 2023

SKILLS

- Programming languages:** Python, TypeScript/JavaScript, Java, C++, C
- Technologies:** Angular, Spring Boot, Flask, Astro, HTML5/CSS3, Git, Terminal/Bash, Linux, CRUD, SCRUM

WORK EXPERIENCE

- Microsoft** Redmond, WA
 - Software Engineering intern — CoreOS Network security + VPN team* May 2024 - Aug 2024
 - Integrated packet drop report in the **WFP** for **PktMon** to monitor packets blocked by the firewall rules.
 - Worked on **kernel** level programming and debugging for the **WFP PktMon** client, utilizing **C** and **WinDBG**.
 - Authored documentation for the design and implementation of the **WFP-PktMon** packet drop reporting system.
- L3Harris** Chantilly, VA
 - Software Engineering intern* May 2023 - July 2023
 - Developed a Full-stack web application using the **Angular** and **Spring Boot** frameworks.
 - Calculated and displayed the satellite's position using **Orekit** and **TLE** data for a 7-day period in a **Cesium 3D** globe.
 - Leverage **Jira** to create and manage the sprint's backlog and **BitBucket** to collaborate with others Software Engineers.
- Puerto Rico's Seismic Network** Mayagüez, PR
 - Web Developer* March 2022 - December 2022
 - Maintained the Seismic Network's website, **Linux** servers and internal tools using **PHP** and **JavaScript**.
 - Created a tool using **Python** to map earthquakes in a Puerto Rico map using **PyGMT**.

RESEARCH EXPERIENCE

- Panda Hat - Adversarial** Mayagüez, PR
 - Research Assistant - Advisor: Dr. Nayda Santiago* Jan 2024 - September 2024
 - Used **PyTorch**, **TensorFlow**, **Keras** and **Matplotlib** to create different machine models.
 - Exploited different models doing adversarial attacks such as **one-pixel attack** and **PGD** for **CNN**.
 - Conducted literary review of research papers related to adversarial attacks to machine learning models.
- RUMBus Research: UPRM** Mayagüez, PR
 - Front-end Developer - Advisor: Prof. Marko Schutz* May 2022 - Current
 - Developed a vehicle tracking & trip management tool using **Typescript** and **Angular**, following the **GTFS** standard.
 - Utilized **PrimeNG** and **Material UI** to design and enhance the dashboard's functionality.
 - Integrated the **Google map API** to display the vehicle locations across the UPRM impacting **1300+** students.

PROJECTS

- Google Tech Exchange Software Development Studio Group Project**
 - Developed a Full-stack web app with **Flask** of a Wikipedia-like website, integrating **GCS** for storage.
 - Applied **unit** and **integration** testing with **100%** code coverage, utilizing **continous integration**.
- Random Poller**
 - Developed a web application using **HTML5/CSS3**, **Flask** and **JavaScript**, utilizing **CSV** files for data storage.
 - Enable to users to manage participants in the poll, with the functionality to randomly select a participant.

ACHIEVEMENTS

- Toyota Mobility Challenge - RUMSpotWatch** Aug 2024 - Current
 - Awarded **\$25k** to develop a parking monitoring app, utilizing **TypeScript**, **React Native** and **YOLOv8**.
- Bae Systems Think Tank 3rd Edition** Nov 2023 - Dec 2023
 - Won **\$1500** with white paper in "Guidance, Navigation and Controls Subsystems for Autonomous Systems".