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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**.

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

- **Hotel Analytical System**
  - Designed and implemented a **PostgreSQL** database schema to store and manage hotel related data.
  - Developed an **ETL** pipeline to automate data extraction, transformation, and loading into the **PostgreSQL** database.
  - Built a **RESTful API** using **Flask** to serve analytical data to the frontend, created with **Voila**.
- **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**.

ACHIEVEMENTS

- **Toyota Mobility Challange - 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".