

Emanuel Lugo Rivera

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TECHNICAL SKILLS

Programming Languages: Java, Python, C/C++, .NET.

Web Development: HTML, CSS, JavaScript, React, AJAX.

Tools: Git, MySQL, Android Studio, Docker Containers, Power BI, AWS Services

Operating Systems: Windows, Linux

EDUCATION

UAGM GURABO

Bachelor of Engineering - Computer Software Engineering (*January 2020 - May 2024*)

Cybersecurity Specialization (Graduate Courses):

- Gained hands-on experience with network security attacks including packet sniffing, ARP cache poisoning, ICMP redirects, SYN flooding, and TCP resets.
- Conducted buffer overflow exploits using Docker, developed custom shellcode, and explored symmetric encryption and PKI.
- Studied cloud computing security principles, access control, authentication models, and threat modeling. Explored and configured firewalls, VPNs, IDS/IPS systems, and assessed network vulnerabilities.

UAGM GURABO

Associate's Degree - Computer Engineering Technology and Networking (*January 2019 – December 2020*)

Graduated Cum Laude - GPA: 3.6

EXPERIENCE

Research Internship

Consortium of Resilient Energy Systems – UAGM Gurabo, PR (*January 2022 – June 2022*)

- Research and analysis of small energy efficient turbines for the charging of batteries using water from rainfall.
- Gathered, parsed and visualized the data gathered from water sensors to design energy efficient turbines.
- Collaborated with other Engineering fields using Agile practices to ensure project delivery on time.

Backend Engineer Internship

Ticketera - San Juan, PR (*June 2020 – December 2020*)

- Automated reporting and data analysis tasks using Python and SQL, reducing manual work by 60%.
- Improved the administrative dashboard by developing dynamic employee scheduling features using PHP and Node.js, streamlining shift management.
- Conducted testing and documentation for REST APIs and maintained Git-based repositories.

Full-stack web developer - (Freelance) - (September 2018 – January 2020)

- Built and maintained scalable and secure web applications.
 - Used React, TypeScript, and Bootstrap to enhance client engagement by 50%
 - Implemented cloud-based debugging solutions to optimize database queries, improving response time by 30%.
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PROJECTS

Hurricane Preparedness and Response System - (Capstone) | (December 2023 – May 2024)

<https://github.com/netteNz/hurricane-preparedness-app-capstone>

- Developed a full-stack open source web app providing real-time updates on resource statuses, shelters, and weather data. Implemented service workers for network outages.
- Designed and implemented scalable backend architecture using Django and HTMX.
- Integrated NOAA, OpenWeatherMap, and Google Maps APIs for interactive data visualization.
- Applied Agile project management methods to improve iteration speed and project success.

Visualizing Puerto Rico's Earthquake Activity | (February 2020)

<https://github.com/netteNz/earthquakes-pr>

- Jupyter Notebook to visualize Puerto Rico's unusual seismic activity during the year 2020.
 - Parsed, plotted and visualized earthquakes with a magnitude greater than 4.5 in the span of January 2020 through the end of February 2020
 - Utilized Pandas for the manipulation of the data and folium to plot said data in a static map.
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LICENSES & CERTIFICATIONS

Crash Course on Python

Grow with Google on Coursera – Issued: (August 2022)

Google | Coursera

Credential ID: B5S5FTX5Y9HM

RCR TRAINING FOR ENGINEERS - (Expires 2025)

CITI Program - Issued June 2021

Credential ID: 42858646

Python Data Structures - Issued: (July 2019)

University of Michigan | Coursera

Credential ID: LUJ93XKUJ2ZC

Python Programming: A Concise Introduction - Issued: (November 2017)

Wesleyan University | Coursera

Credential ID: ZJ4YUSVM5E2D