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%.

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.

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
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