MANTHINI MEHER VARDHAN

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Education

Amrita Vishwa Vidyapeetham **September 2021 - Present**
Bachelor Of Technology, Computer Science & Engineering | CGPA: 7.46/10

Research Work Experience

➔ **Research Intern at TIFAC CORE SECURITY (05/2024-07/2024):** Conducted vulnerability analysis of the MQTT protocol, executing attacks across multiple layers. Implemented hashing and salting techniques to enhance security while avoiding MQTTS to reduce overhead. Documented findings in a detailed work for Journal titled **Secure and Efficient Communication for MQTT-based IoT Systems** and published for **Elsevier book**.
➔ **Anomaly Detection in College environment**, A computer Vision project Published in the **I-SMAC 2024** conference.

Projects

Mentor and Me-Online learning platform| HTML5, CSS3, JS and PHP | GitHub Team Project
➔ Initiated application development by drawing inspiration from Udemy and Coursera and leading backend development.
➔ Added a database infrastructure and key features like payment methods and review forms for an enhanced user experience and Extension of Mentor and Me is added with hybrid data structures

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PCAP Network Forensic Analysis |Bash, Python3| GitHub Team Project
➔This is an ongoing project, with the idea of analyzing the malware in TCP streams, Object files in PCAP files, and pushing data to different APIs (virus-total, malware bazaar, Gemini-API) for analysis.

Server Health Monitoring Systems|Apache, Ngnix, Slowloris, Hping3| GitHub Team Project
➔ Implemented Fault-tolerant and load-balancing solutions by testing DoS and DDoS attacks on Apache and Nginx. Topologies are made in Cisco packet tracer and GNS.
➔ Python for real-time data visualization, CPU optimization, and performance analysis.

Intrusion Detection System | Machine Learning| GitHub Team Project
➔ Developed an IDS leveraging machine learning to detect unauthorized access attempts with high accuracy. Conducted model evaluation and selection to improve detection rates and reduce false positives.
➔ Achieved an accuracy of 98% using **XGBoost**

Other Projects (SUSTAINABILITY, SOCIAL RESPONSIBILITY)

➔ Got selected for the Live in Labs program, a Sustainability development initiative by Mata Amritanandamayi Math and the United Nations. Our Team worked on a **Customized GPS module for fishermen's communities** to find the deployed nets.

Technical Skills

Skills: **Web development, Computer Networking, Oops concepts and RDBMS**
Languages and Frameworks: HTML5, CSS3, C++, SQL, JS, Python
Tools and Technologies: GNS3, packet tracer, Network Miner, Brim Security, Wifi and Bluetooth Sniffers, Wireshark, ESP32, Flare vm.

Certifications/Extra-curricular

- ➔ **Achieved Team (Synk) Rank 10 in ACN_CTF 2024**
- ➔ **Cybersecurity blog writer|medium|View Blog**
- ➔ **Malware Analysis and Introduction to Assembly Language |Coursera |Certificate**
- ➔ **Master Wireshark 3|EC-Council|View Certificate**
- ➔ **Cybersecurity|Internship|Teachnook|View Certificate**
- ➔ **Learn network hacking from scratch|udemy|View Certificate**