PRAJNA BHANDARY

prajna.bhandary.22@gmail.com | (443)-527-5965 | https://www.linkedin.com/in/pjbhandary/ | https://github.com/prajbh

EDUCATION

University of Maryland Baltimore County(UMBC)   Expected Graduation: May 2025
PhD., Computer Science   Cumulative GPA: 3.6/4.0
University of Maryland Baltimore County(UMBC)   Graduated: December 2020
M.S., Computer Science   Cumulative GPA: 3.6/4.0

SKILLS

Programming/Scripting Languages: C++, C, Java, Python, Javascript, HTML, CSS, Scapy
Database: MYSQL, MongoDB, Cloudant
Framework/Tools: Git, Spring Boot, Hibernate, Eclipse, ReactJS, IntelliJ Idea, ServiceNow
. Tomcat, Wireshark, Maven, JupyterNotebook, Visual Studio, Scapy

WORK EXPERIENCE

Graduate Assistant - Teaching Assistant   Feb 2019 - present
University of Maryland Baltimore County(UMBC)
- Assisted in developing course content for courses Computer Networks, Software Reverse Engineering, Artificial Intelligence, Introduction to Machine Learning, Introduction to Network Security, Data Structure, Object Oriented Programming(C++), Computer Organisation and Assembly language.

Summer Associate   May 2024 - August 2024
Palo Alto Networks Unit42 - Threat Intel Research Intern
Threat Intelligence - AI-Driven Ransomware behavior *-Python, AI, LLM, ML*
- Conducted in-depth threat intelligence and authored comprehensive landscape reports, analyzing the evolving tactics, techniques, and procedures (TTPs) of ransomware actors.
- Developed a POC to leverage Llama3 and Mistral that simulate C2 like operations in a ransomware attack.
- Gained hands-on experience in fine-tuning the model and prompt engineering to get appropriate responses.

Summer Associate   May 2023 - August 2023
Navy Federal Credit Union - Automation & Special Projects
Automation of analysis of Data *-Python, ServiceNow, Cofense Triage, Pega, Pandas, Scikit-learn, ML*
- Developed a tool that clusters text messages and provides data insights.
- Researched and devised a POC to automate phishing attack handling, enhancing workflow efficiency.
- Utilized machine learning features in ServiceNow, Cofense Triage, and Pega to implement the POC effectively.
- Explored leveraging large language models for quicker incident resolution, optimizing overall incident management.

Software Developer/Cybersecurity Specialist   May 2021 - May 2023
IBM Security Innovation and Remediation (Office of CISO)
Atttack Detection in Active directory *-Powershell, Metasploit, Sharpspolit, Python*
- Developed a POC and tool to detect attack paths of unknown attacks that maps to the MITRE Attack Framework.
Network Egress *- Python, Scapy, Cloudant, D3, Flask, Azure*
- Designed and developed a POC for identifying external connections in the internal network and identify attacks.
Automation of Vulnerability Management *- Python, IBM Cloud*
- Developed a online software on IBM cloud that uses Natural Language Processing techniques such as stop-word filtering, stemming, and document-term importance measurements were used to generate responses to a wide range of user inputs.

PUBLICATION AND RESEARCH WORK

Cryptographic Protocol Shapes Analyser (CPSA)   August, 2019 − present
- "Searching for Selfie in TLS 1.3 with the Cryptographic Protocol Shapes Analyzer", Protocols, Strands, and Logic. []Paper Link]
Malware Analysis using Machine Learning *-Python, Pandas, Scikit-learn, ML, NN*   August, 2020 − present
- Bhandary, P., Adetunji, I., Kiendrebeogo, A., Vieson, C., Joyce, R.J., Eren, M.E., and Nicholas, C.. Malware Antivirus Scan Pattern Mining via Tensor Decomposition.MTEM '22: Malware Technical Exchange Meeting. [Poster link]
- Bhandary, P., Wiredu-Aidoo, R., Palakurthi, V., Edara, M., and Nicholas, C.MTEM '23: Malware Trends using Similarity Matrix. [Poster link]
- Bhandary, P., Joyce, R., and Nicholas, C. Ransomware Evolution: Unveiling Patterns Using HDBSCAN. (Accepted CAMLIS 2024)