Hritesh Sonawane

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Hacker, Engineer, Student

EDUCATION

Northeastern University, *MSc* in *Cybersecurity*, Boston, MA, USA | *GPA: 3.8/4.0*　　　*September 2022 - January 2024*
Courses: Network Security, Distributed Systems, Software Vulnerabilities, Security Risk Management, Cloud Security

University of Mumbai, *BE* in *Information Technology*, Mumbai, India | *GPA: 9.1/10.0*　　　*August 2018 - July 2022*
Courses: Data Structure & Algorithms, Computer Networks, Cryptography, Operating Systems, Machine Learning

TECHNICAL SKILLS

Languages / Databases	Golang, Python, C, C++, Bash, JavaScript, SQL, PostgreSQL, MongoDB, Amazon S3
Cloud / Developer Tools	AWS (Certified Solutions Architect), GCP, Azure, Terraform, Git, Docker, Kubernetes
Security / Scanning	Wireshark, Snort, Metasploit, Nmap, Splunk, Datadog, Qualys, Nessus, Burp Suite

WORK EXPERIENCE

Northeastern University (NDSS Lab), *Graduate Research Assistant* | Boston, MA　　　*January 2023 - Present*
- Formulated a finite-state machine against Meta's implementation of the QUIC protocol - Copa
- Leveraged Mininet to orchestrate flows with loss-based (Reno, CUBIC) & delay-based (Copa, BBR) algorithms
- Developed finite-state machine models to optimize algorithms, aligning with NVIDIA's focus on SoC security

Broad Institute of MIT and Harvard, *Security Engineer Intern* | Cambridge, MA　　　*September 2023 - Present*
- Conducted source code reviews of gnomAD (Genome Aggregation Database) and identified vulnerabilities, demonstrating expertise in vulnerability management and remediation within complex software systems
- Integrated alerts from Splunk, Qualys, Google SCC, SentinelOne, Datadog, ServiceNow to Slack
- Spearheaded Broad's security by optimizing data pipelines across the cloud multi-provider ecosystem

Pfizer - Zoetis, Inc (*Fortune 500*), *Security Engineer Intern* | Parsippany, NJ　　　*May 2023 - August 2023*
- Improved incident response time by 25% for event correlation and conducted Vulnerability Assessments using Nucleus, Nessus, Burp, Nmap, and Metasploit, enhancing the overall security posture
- Led security operations, optimizing efficiency by 30% through Python scripting for vulnerability identification

Oyela Inc, *Software Development Engineer Intern* | Mumbai, India　　　*February 2022 - April 2022*
- Built the prototype for a search algorithm with the ELK (Elasticsearch, Logstash, and Kibana) stack for 20% efficient query as opposed to legacy regex; Engineered Golang REST APIs for MongoDB integration
- Streamlined blocking and reporting features, resulting in a 30% increase in user interaction and positive feedback

PROJECTS

Mobile GPU Guardian, NEU SecLab　　　*July 2023 - Present*
- Formulated a robust security framework for mobile GPUs, uniting covert boot processes and concealed firmware updates in C, and subjected it to rigorous penetration simulations to assess vulnerability resistance
- Executed obfuscated secure boot mechanisms, incorporating advanced encryption algorithms (AES-256) to enable discreet firmware updates

Hac'KP 2021, Grapnel – Guided Micro-Fuzzing　　　*March 2021 - August 2021*
- Implemented graphical representation of nodes and an Intelligent Darknet Monitor to display the real-time status of onion sites (Up/Down), resulting in a notable 3-week acceleration of the SDLC
- Leveraged Python, GraphQL, Dgraph, AWS S3, and pytest, showcasing expertise in integrating, analyzing, and conveying vital metrics for extensive data sets

IEEE Xplore – Publisher: IEEE ICONAT, Torsion　　　*March 2021 - March 2022*
- Developed a Python-based Open-Source Intelligence (OSINT) tool for entity metadata collection via usernames, including darknet support for scanning onion and i2p sites, resulting in a 15% acceleration in query processing
- Collaborated across tech and clouds to assess vulnerabilities and enhance security as project lead

NOTABLE ACHIEVEMENTS

- CrowdStrike 2023-24 NextGen Scholarship (Sole MSc recipient across USA) - $10,000
- Google's (Code_Hack) Global Finalist | DEF CON Crypto village staff / HackMIT 2023 Mentor and Judge