Rishika Patel

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Education

Vellore Institute of Technology Bhopal, India
Bachelor of Technology – Computer Science Engineering *2023 – Ongoing*
Specialization: Cyber Security (CGPA: 8.84/10)

Skills Summary

- **Languages:** C++, Python, SQL, Bash Scripting, JavaScript, HTML, CSS
- **Tools & Frameworks:** Docker, Git, GitHub, BurpSuite, Wireshark, Nmap, Metasploit, Nessus, Splunk, Ghidra, Scapy, Kali Linux
- **Cloud & Infrastructure:** AWS (EC2, S3, IAM, VPC), ELK Stack, Containerization, Distributed Systems
- **Core Concepts & Networking:** Data Structures & Algorithms (DSA), Object-Oriented Programming (OOPs), Operating System (OS), TCP/IP, Socket Programming, Network Protocols, Secure Coding, System Optimization
- **Security & Ethical Hacking:** Computer Networking, Vulnerability Assessment & Penetration Testing (VAPT), Reverse Engineering, Malware Analysis, Threat Detection, Web Security, OWASP Top 10

Experience

Cyber Security Intern — Tamizhan Skills (Remote) Jun 2025 – Jul 2025
- Programmed 6+ proof-of-concept Python security tools, including a custom multi-port socket scanner, file-encryption utilities, and keyloggers.
- Conducted simulated vulnerability assessments and analyzed network traffic patterns to understand attack vectors and strengthen defensive posture.

Projects

Containerized HIDS & SIEM Pipeline Python, Docker, ELK Stack, Scapy, Linux, Nmap
- Spearheaded a containerized SIEM architecture using Docker Compose, optimizing host CPU/RAM overhead by reducing resource consumption by 40% through strategic VM migration.
- Developed a high-throughput Python HIDS sensor using Scapy to capture live traffic and stream real-time JSON alerts over TCP.

Vulnerability Management Platform Python, SQLite, Network Security, Socket Programming
- Engineered a modular vulnerability management platform in Python automating network reconnaissance, asynchronous port scanning, CVE signature matching, and HTTP header auditing.
- Integrated SQLite database schemas to track, correlate, and index system vulnerabilities over time, cutting manual reporting effort by 50%.
- Enhanced an automated security reporting engine that aggregates structured database findings into executive-level vulnerability assessment reports.

AI-Powered Behavioral Anomaly Detection Python, Scikit-learn, Scapy, Networking
- Built an end-to-end threat detection pipeline that captures raw network packets using Scapy, converts them into behavioral features, and passes them to unsupervised models.
- Trained the system on baseline network traffic to identify subtle zero-day anomalies and multi-stage attack patterns that traditional signature-based rules miss.
- Streamed real-time JSON alert logs directly into SIEM workflows, cutting down false positives and enabling immediate incident response by 60%.

Certificates

- Certified Cybersecurity Educator Professional (CCEP)
- The Bits and Bytes of Computer Networking (Coursera)
- Blockchain and its Applications (NPTEL, IIT Kharagpur)
- AWS Cloud Practitioner & AWS Skill Builder
- Networking Basics & Cyber Threat Management (CISCO)
- Cybersecurity Job Simulation (Mastercard & Deloitte)

Achievements

- Solved 400+ LeetCode problems and actively competed in Codeforces contests with a max of 902 contest rating.
- Identified and responsibly disclosed a Cross-Site Scripting (XSS) vulnerability via OpenBugBounty, earning the Fastest Fix Badge after remediation within 24 hours.
- Received an offer letter from APCSIP-2026 for a Cyber Cell internship and participated for the DSCI Cyber For Her Hackathon.
- Qualified for Round 2 of Scripted By Her 2.0 and the Meesho Hackathon and successfully cleared evaluation rounds for the Honeywell selection process.
- Ranked in the top 2% globally on TryHackMe with the longest 177-day learning streak.
- Placed 355th out of 5,947 global competitors in the TryHackMe Industrial-Intrusion CTF.
- Secured 7th rank nationally in the Shell n'Zen CTF, solving complex web security and reverse engineering challenges.