PRANJALI VINOD THAKUR

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EDUCATION

Master of Science, Cybersecurity Aug 2022 - Dec 2024 (Expected)
Rochester Institute of Technology, Rochester, New York, USA *GPA: 3.85/4.00*
Relevant Coursework: Network Security, Computer Viruses & Malware Software, Computer System Security, Trusted Computing, Internet Security, Web Server Applications & Security Audits, Network & Distributed System Security, Enterprise Security, Cryptography & Authentication, Introduction to Computing Security, Software Development

Bachelor of Engineering, Electronics Engineering Aug 2016 - Oct 2020
Mumbai University, Navi Mumbai, Maharashtra, India *CGPA: 7.1/10.00*

SKILLS

- **Network Security**: Firewalls, IDS/IPS, VPNs
- **Programming Languages**: Python, PowerShell, Bash, HTML, JavaScript, Solidity, Assembly Language (x86, x64)
- **Networking Protocols**: TCP/IP, DNS, DHCP, SNMP, OSPF, STP
- **Operating Systems**: Windows, Linux, macOS, Kali
- **Tools**: Git, GitHub, BitBucket, JIRA, Postman, Wireshark, Snort, Resource Hacker, Strings, PEview, UPX, Regshot, ProcessMonitor, Cisco Packet Tracer, Metasploit, Arduino, MATLAB, Ansible, Docker, Intel SGX
- **Advanced Security and Privacy Concepts**: K-anonymity, Local Differential Privacy, Federated Learning, Homomorphic encryption, Zero Knowledge Proof, Malware Analysis

WORK EXPERIENCE

Graduate Teaching Assistant | **Rochester Institute Of Technology, Rochester, NY** Sep 2023 - Present

- Introduction to Cybersecurity & Risk Management for Information Security - Assisted Professor with doubt-solving during lectures & grading assignments.
- Enhanced skills in data security and risk management and guided students with case studies along with risk assessments.

Software Developer | **NeoSoft Technologies, Mumbai, India** Dec 2020 - May 2022

- Architected blockchain based solutions for fractional ownership tokenization in real estate using ERC20 tokens.
- Built a decentralized application on the Ethereum blockchain that facilitated the auction of non-fungible tokenized art using React.js.
- Utilized Hyperledger Fabric and Quorum to build a private blockchain network for supply chain management, ensuring data privacy between organizations/peers.

PROJECTS

Secure Web Application Server with Docker Deployment Dec 2023

- Developed a secure web application server specifically for PHP script execution, using Docker for deployment.
- Implemented rigorous parsing of web requests focusing on security measures to mitigate vulnerabilities like SQL injections and path traversal.
- Enhanced server security and efficiency, ensuring robust protection against common web vulnerabilities.

Password Management System leveraging Intel SGX Nov 2023

- Designed and built a secure password management system, utilizing Intel SGX technology for heightened security.
- Focused on cryptographic security measures and Intel SGX's advanced capabilities to protect sensitive user data.
- Delivered a system with upgraded security features, mitigating risks associated with password management.

Attack Defense Exercise (ADE) Apr 2023

- Engaged in a comprehensive cybersecurity exercise, simulating attack and defense scenarios in a controlled virtual environment.
- Leveraged virtualization software(VMware ESXi) and a range of security tools to set up and penetrate vulnerabilities.
- Elevated understanding of cybersecurity attack and defense mechanisms, enhancing practical skills in network and system security.

Vulnerability Analysis of Smart Contract on Blockchain Platforms Apr 2023

- Researched smart contract vulnerabilities in blockchain technology, analyzing 12 security tools like Oyente and Securify.
- Categorized tools into static, dynamic, and formal verification; evaluated the open-source status for transparency.

Authentication of IoT devices using Zero-Knowledge Proofs (ZKP) Dec 2022

- Innovated an authentication protocol for IoT devices using Zero-Knowledge Proofs, reducing overhead and bolstering security.
- Employed cryptographic techniques and Zero-Knowledge Proofs to eliminate impersonation risks and improve authentication speed.
- Achieved a more secure and efficient authentication process with reduced overhead of 70% for IoT devices, setting a new standard in IoT security.