

Rudranil Maity, MS

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EDUCATION

New Jersey Institute of Technology, Newark, NJ

Sep'22 - May'24

Master of Science, Cyber Security & Privacy

GPA: 3.50

Relevant Coursework: Cryptography and Security, Internet and Higher Layer Protocols, Network Mgmt. & Security, Smartphone Security, Cloud Computing, Counter Hacking Techniques, Cyber Sec. Investigations and Law, Data Analysis for Information Systems

SKILLS

Java, C, x86, Python, JavaScript, Cryptographic Algorithms, Cryptanalysis, Penetration Testing, Reverse Engineering, Vulnerability Analysis (XSS, SQLi), Metasploit, Wireshark, SIEM, Computer Architecture, PowerShell, Bash Scripting, Computer Networks (TCP/IP, OSI, DNS, HTTP, BGP, DHCP, VPN, ZTNA, ACLs, OSPF), Firewalls, Kerberos, Active Directory, Nessus, Nmap, OSINT Tools, OWASP Top 10, PKI Concepts, Docker, Endpoint Security, AWS (EC2, CloudWatch, IAM, EKS)

PROFESSIONAL EXPERIENCES

New Jersey Institute of Technology

May'23 - Present

Graduate Teaching Assistant

Newark, NJ

- Managed the graduate course of Data Mining (CS634; Summer and Fall 2023) and later Machine Learning (DS675; Spring 2024); through grading of assignments and supervision of projects included in the syllabus.
- Propagating the dynamic integration of diverse machine learning concepts, from the intricacies of Bayesian classification to the complexities of Recurrent Networks and regression, fostering a comprehensive understanding of cutting-edge techniques within the realm of data science.

SPLIT Chennai

Jan'22 - Feb'22

Android Developer Intern - ReactNative

Chennai, India

- Resolved critical issues with precision by leveraging ReactNative, rectifying improper adjustments in the time stamp along with fixing React-DOM based reloading issues of the homepage within the front-end of an Android application which catered over 5000+ user base.
- Contributed in project deployment efficiency by implementing SCRUM methodologies and leveraging Git version controlling, including coordination with web-based development team to maintain proper workflow between mobile and web version of the application.
- Achieved punctual project delivery through collaborative efforts with cross-functional teams, maintaining transparent communication and providing updates via JIRA tickets—exemplifying effective project coordination and communication skill.

RELEVANT PROJECTS

Network Traffic Analysis of Android apps using MITMproxy and Frida

Oct'23 - Dec'23

- Executed dynamic analysis of over 30 popular Android apps by intercepting encrypted traffic with MITMProxy, Frida, and Objection, revealing unchecked transmission of personal information to advertising and analytics servers.
- Discovered apps transmitting unencrypted device data like ID, location, usage statistics to ad/analytics servers at high frequency (up to 15 requests/second) including plaintext transmission of authentication credentials and credit card information, posing severe fraud risks.
- Suggested concrete mitigation strategies for users, developers, and app stores to strengthen privacy standards and control unauthorized data sharing and published detailed analysis methodology, findings, and recommendations in comprehensive project report (<https://medium.com/@rudranilmaity01/network-traffic-analysis-of-android-apps-using-mitmproxy-and-frida-afb69afc389f>).

[Buffer Overflow Attacks Over Various Programs based on x86 Architecture](#)

Jan'23 - May'23

- Crafted exploits to gain arbitrary code execution by overflowing buffers and bypassing modern defenses like ASLR, DEP, and stack canaries in multiple C programs and performed static and dynamic analysis of programs using objdump, strings, and gdb to identify vulnerabilities.
- Utilized GDB in multiple Linux distributions to inspect disassembly of codes in runtime; followed by execution of attacks like ret2libc and ROP chains to bypass modern systems protections like non-executable stacks.

Extensive Penetration Testing of Web Applications

Oct'22 - Dec'22

- Developed JavaScript exploits that allowed stealing user cookies and credentials by exploiting XSS vulnerabilities in a web application.
- Performed vulnerability analysis by acting as a Certificate Authority to issue and sign digital certificates, exploring public key infrastructure concepts like certificate signing, SSL/TLS connections between client and server, and authentication.

[Detection of Weak Passwords Against Dictionary Attack](#)

Sep'22 - Oct'22

- Developed a Java program to crack salted password hashes using a dictionary attack.
- Successfully executed a brute force attack using "John the Ripper" on the extensive "rockyou.txt" file, containing over 5 million entries.
- Successfully scaled up the attack's intensity by using the "weakpass" database, comprising over 40 million passwords.

ACHIEVEMENTS

Top 14% @ [TryHackMe](#) | Patent @ Light Fidelity Data Transfer Device (Design no: 363174-001; CBR: 200974 and class 14-02) | [IBM Cyber Security Analyst Certification](#) – Coursera | Participant @ JerceyCTF '23 & '24 | Participant @ HacktoberFest @ '20, '21, '22