

# Rudranil Maity

Harrison, New Jersey | +1 973-964-8869 | [rudranilmaity01@gmail.com](mailto:rudranilmaity01@gmail.com) | [linkedin](#) | [Github](#) | [Portfolio](#)

## EDUCATION

### New Jersey Institute of Technology

Master of Science in Cyber Security & Privacy, Cumulative GPA: 3.42/4.00

Newark, NJ

Sep. 2022 – May 2024

## PATENT & PROJECTS

### Network Traffic Analysis of Android apps using MITMproxy and Frida

October 2023 - Present

- Conducting ongoing analysis of intercepted data using MITMproxy to identify potential vulnerabilities, security violations, and unauthorized connections to ad servers within applications not designed for network access.
- Actively scrutinizing applications to ensure secure transmission of sensitive information, including user passwords and authentication tokens like JWTs or OAuth tokens.
- Continuously monitoring network latency and response times to assess and improve application performance.

### Buffer Overflow | x86 assembly, Cryptanalysis, Privilege Escalation, Incident Response, Linux | Jan. 2023 – May 2023

- Mitigated multiple vulnerabilities in **x86 assembly** programs throughout the project with GDB in Ubuntu.
- Successfully performed **Buffer Overflow** attacks on both stack based and heap based programs.
- Utilized **GDB** in multiple **Linux distributions** to inspect disassembly of codes in runtime.
- Analyzed with Social Engineering Toolkit; finding ways to get secured from those vulnerabilities with **ASLR**, **DEP** and Stack Smashing protection on Linux Distributions; as well as implementing **SIEM** and **IDS**.

### Detection of Weak Passwords | Java, Code Hardening, Hashing, PKI and HIPAA Concepts | Oct 2022 - Nov 2022

- **Course Project:** Developed a program in **Java** which detects weak salted passwords over a dictionary attack.
- Performed a successful **brute force** attack on a database with the "rockyou.txt" file; containing over 5 million texts; later carried the attack to more intensity with "weakpass" databases; containing over 40 million passwords.

### Patent: Light Fidelity (LIFI) Based Data Transfer Device For Mobile Phone

Published – May 2023

- Developed the first-ever android application for Light Fidelity-based encrypted data transfer over void medium.
- Achieved over 100 times increment in speed of secured transfer with Li-Fi over the conventional methods.
- Leveraged **reactNative**, using intensity-controlled flashlight as a source and infrared sensor as a receptor.
- Design no: 363174-001; CBR: 200974 and class 14-02. Published in the Journal of Intellectual Properties India.

## EXPERIENCE

### Teaching Assistant – Data Mining

May 2023 – Present

New Jersey Institute of Technology

Newark, NJ

- Managing the graduate course for CS634; through grading of assignments and projects included in the syllabus.
- Giving feedback and managing timely submissions through announcements and focusing on improving students' performance regarding course projects which implements Python Apriori Algorithm to Relational Databases.

### Tutor (Computer Science, Matlab and Physics)

June 2023 – August 2023

New Jersey Institute of Technology

Newark, NJ

- Tutored incoming college students through solving their queries on problems related on over 5 subjects.
- Assisted students in solving complex problems from Sears and Zemansky's University Physics.
- Mentored 30+ students in learning Python and Matlab basics while helping in programming assignments.

### ReactNative Android Developer

Jan 2022 - Feb 2022

SPLIT Chennai

Chennai, India

- Debugged crucial issues by fixing improper adjustment in the time stamp in the front-end of an android application.
- Streamlined project deployment by implementing SCRUM methodologies and GitHub for project management.
- Achieved timely delivery by collaborating with cross-functional teams, providing updates through JIRA tickets.

## TECHNICAL SKILLS

**Programming:** Java, Python, x86 assembly, C, JavaScript (ReactJS, NodeJS, AngularJS, ExpressJS), HTML/CSS

**Security:** Cryptographic Algorithms, Cryptanalysis, PKI Concepts, Privilege Escalation, Penetration Testing, Incident Response, DevSecOps, Web App Security, SIEM, IDS, Firewalls.

**Networking:** IP Configuration, DNS, OSI Layers, TLS/SSL, LDAP, VPN, IPSec, VLAN, LAN topologies, MPLS.

**Project Management:** Git and Github, JIRA, Git Analytics, Version COntrol.

**Operating Systems:** Linux Distributions (Kali, Ubuntu, ParrotOS, Archlinux), Windows.

**Tools:** Wireshark, GDB, BurpSuite, Frida, Androguard, MITMProxy, John the Ripper, Burpsuite, Ettercap, NMap, Snort, Aircrack-ng, Metasploit, Nessus, Yersinia, Social Engineering Toolkit.