AQUIF REZA MIR

ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	M.Tech in Cyber Security	Indian Institute of Technology Delhi	9.07
2021	B.Tech. in Computer Science & Engineering	National Institute of Technology, Srinagar	9.38
2014	J & K State Board of School Education	Sri Pratap Higher Secondary School	82.6
2012	J & K State Board of School Education	Woodlands House School	95.2

IIT DELHI THESIS

Title: Securing IoT Networks against Adversarial Machine Learning–Assisted Attacks
Supervisor: Prof. Vireshwar Kumar
Description: In order to create a robust **Network Intrusion Detection System (NIDS)** for IoT networks that is resistant to adversarial machine learning–assisted attacks, this project focuses on two complementary approaches:
 - **Robust Feature Extraction:** Develop a feature extractor that ensures features remain diverse yet highly insensitive to minor adversarial perturbations in network traffic, maintaining reliability under attack.
 - **Moving Target Defense in Detection:** Implement a stochastic defense strategy that dynamically varies the detector's decision boundary, thus significantly complicating adversarial evasion.

PROJECTS

[Webpage](#) || **[GitHub](#)**

• **Network Traffic Analysis Tool (Prof. Huzur Saran)**:
 - Developed a framework for large-scale network traffic analysis and threat detection using real-world packet captures, supporting descriptive statistics, sublinear-space traffic estimation, anomaly detection, and in-depth security threat analysis.
• **Adding Functionalities to xv6 Operating System (Prof. Smruti Ranjan Sarangi)**:
 - Enhanced the xv6 OS by adding shell features (user authentication, history, block/unblock, chmod), implementing advanced process management (signal handling, custom scheduler), and extending memory management (memory printer, page swapping).
• **HPSAT – Hybrid Password Strength Analysis Tool (B.Tech. Major Project)**:
 - Developed a lightweight and extensible password strength evaluation system that integrates **rule-based heuristics** with **machine learning classification** to effectively assess diverse password structures.
• **Bloodbank-API**:
 - Built a secure, role-based REST API using Node.js, Express, and MongoDB to manage hospital blood sample workflows and public requests, enabling authorized hospital operations and streamlined request handling for receivers.

TECHNICAL SKILLS

Languages: Java, Python, JavaScript, C, C++, Shell Scripting || **Back-End Development**: Node.js (MVC, REST API, GraphQL), WebSockets (Socket.io), Flask || **Machine Learning**: Image Classification, Network Traffic Classification, Password Strength Estimation || **Database Management**: MySQL (ORM - Sequelize), MongoDB (ODM - Mongoose) || **Front-End Development**: HTML5, CSS3, JavaScript, Bootstrap, React.js, jQuery || **Tools and Other Skills**: System Design (HLD/LLD, Rate Limiting, Caching, etc.), Git & GitHub.

INTERNSHIPS

• **Click Labs Pvt. Ltd, Chandigarh (Tech Trainee - Backend Development)** (April, 2021 - Sept, 2021)
 - **Mappr Product** – Logistics and Route Optimization Platform
 - Integrated local mapping APIs of countries (e.g., Poland, Netherlands, Belgium, Qatar, Canada) and third-party services (e.g., OneMap, Foursquare, Geoportal) into the product ecosystem.
 - Implemented optimal path algorithms for constraint-based vehicle routing using **Google OR-Tools**.

• **Verzeo EduTech Pvt. Ltd, Bengaluru (Project Intern)** (April, 2020 - June, 2020) (Remote)
 - Revamped the company website to improve performance and optimize load times using modern full-stack development practices.

SCHOLASTIC ACHIEVEMENTS

• **B.Tech. Gold Medalist:** Awarded for securing the **highest CGPA** in department of CSE at NIT Srinagar.

TEACHING ASSISTANTSHIP

• **Course COL106(Data Structures & Algorithms):** Fall '24 and Spring '25 **(Outstanding TA Award Recipient).**

Disclaimer: All the information on this page is entered by student.

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IIT COURSE

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M.Tech in Cyber Security	Indian Institute of Technology Delhi	9.07	---

COURSES DONE

Advanced Data Structures, Computer Networks, Cryptography & Computer Sec., Introduction To Blockchains, Cryptocurrencies, And Smart Contracts, Resource Management In Computer Systems, Minor Project, Networks & System Security, Special Topics In Cyber Security