Saurabh Rana

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EDUCATION

Master of Computer Applications (MCA), Graphic Era University, Dehradun	Jul 2024 – Present
Master of Science (Mathematics), SGRR (PG) College, Dehradun	2020 – 2022
Bachelor of Science (PCM), SGRR (PG) College, Dehradun	2017 – 2020

PROFESSIONAL EXPERIENCE

- **Software Tester (Full Time)** *Yoctel Solution Pvt. Ltd., New Delhi* Aug 2022 – May 2024
  - Developed Java-based automated functional/API tests (Selenium) and Postman; ran smoke/regression and auth/session checks; documented findings and recommended fixes.
  - Conducted login-bypass assessments using MITM to evaluate authentication and session management.
  - Decompiled Android apps, performed runtime analysis with Frida, and rooted devices to validate app hardening.
  - Performed web/API and Windows/macOS (QT) security tests (SQLi, unauthenticated endpoints, insecure communications) using Burp Suite, OWASP ZAP, and Frida.

PROJECTS

- **Portfolio Website** Live HTML, CSS, Javascript, Spring Boot, MongoDb
  - Built a responsive portfolio website using HTML, CSS, and JavaScript, with backend powered by **Spring Boot (hosted on Render)** and **MongoDB Atlas** as the database.
  - Implemented **admin login** and **REST APIs** for managing projects.
- **URL Shortener Application** Github Spring Boot, MySQL, REST API, HTML, CSS, JavaScript
  - Developed a **URL Shortener web application** using Spring Boot, MySQL with **Hibernate ORM**, and **Lombok** for reducing boilerplate code, providing functionality to generate and manage short URLs.
  - Implemented **RESTful APIs** for creating, redirecting, and tracking shortened links, with input validation, expiry features, and JSON-based request/response handling using **DTOs**.
  - Integrated a simple **frontend interface** using HTML, CSS, and JavaScript for user interaction.
- **Network Cache Proxy Server** Github Node.js, HTTP, In-memory Cache
  - Developed a proxy server in Node.js that intercepts client requests, forwards them to the main server, and serves cached responses to reduce latency.
  - Implemented in-memory caching with **LRU** (Least Recently Used) policy to minimize redundant network calls, improving response times by up to 40%.
  - Added a lightweight monitoring interface to track request logs and cache hits/misses.
- **Library Management System** Github Java, MySQL, JDBC, Swing
  - Designed a desktop application for managing library operations such as book issue/return, member records, and fine calculation.
  - Implemented **JDBC** based persistence with secure user authentication and **role-based access** (Admin/Student).

TECHNICAL SKILLS

- **Languages:** Java 8 (OOP, Collections, Streams, Lambda Expressions), JavaScript
- **Frameworks/Tools:** Spring Boot, Spring Data JPA, Spring Security, Lombok, Maven
- **Databases:** Oracle SQL, MySQL
- **Testing, Version Control & Cloud:** JUnit, Mockito, Burp Suite, Fiddler, Git, Docker, AWS Cloud Fundamentals

CERTIFICATIONS

- Fundamentals of Object Oriented Programming (IITR) – View , Database Management System (NPTEL IITK) – View

ACHIEVEMENTS

- Cleared GATE Mathematics 2024 with Rank 1218 – View
- Recognized for improving security protocols during tenure at Yoctel Solution Pvt. Ltd.
- Solved 300+ problems on LeetCode and GeeksforGeeks in a year.