ROHAN TIWARI

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EDUCATION

Birla Institute of Technology & Science, Pilani   **August 2021 - August 2026**
B.E. Electronics & Communication and M.Sc. Chemistry (Dual Degree)   ***CGPA - 8.5***

Relevant Coursework
Computer Programming, Object-Oriented Programming, Operating Systems, Communication Networks.

EXPERIENCE

Commvault Systems, Bengaluru   **May 2023 - July 2023**
Role - Development Intern | *C++, Microsoft SQL*

- Implemented a **scalable** client-level **network security module** for multi-tenant environments like Commvault's MSP that provide a comprehensive and reliable **Disaster Recovery (DR) and Backup** services.
- This security module safeguards internal APIs of the software, **preventing unauthorized access** from rogue tenants in the **same network**, **securing critical information** required for initiating backup and restore operations.
- Drove the effort to **rigorously test development changes** by creating a **simulated multi-tenant environment**, ensured the seamless integration and **robustness** of the system.

PROJECTS

File Encryption Service 🔗 | Golang   **April 2025**

- Created a robust **file encryption-decryption CLI Tool** utilizing user-set passwords for validation.
- Employed a **Password Based Key Derivation Function** using **Secure Hash Algorithm (SHA-1)** and additional variables to **enhance encryption security.**
- Enabled **AES encryption** by integrating **Galois/Counter Mode (GCM) function**, ensuring **data integrity** verification upon decryption.

Huffman Coding 🔗 | C++, Data Structures   **March 2025**

- Implemented a generalized **d-ary Huffman encoding and decoding algorithm**, optimizing text compression by constructing **efficient prefix codes** tailored to variable branching factors
- **Designed** and **integrated** relevant data structures to systematically build Huffman trees, **enhancing data processing efficiency** and readability.

URL Shortening Service 🔗 | Golang, Redis Cache   **December 2024**

- Designed and implemented a **URL Shortening Service** using Golang's Fiber framework ensuring **high availability** and **low latency.**
- Leveraged **Redis** for fast and reliable storage and retrieval of URL mappings, **optimizing performance.**
- Utilized **Docker** to containerize the application, for easy deployment and **scalability.**

TECHNICAL SKILLS

Languages: C++, Java, SQL
Technologies/Frameworks: React, MongoDB, Express.
Developer Tools: Visual Studio, VS Code, IntelliJ.

ACTIVITIES

- Project Associate at **Postman API Lab, BITS Pilani.**
- Pursuing research project under the **SPARKLE (Student Program for Advancing Research, Knowledge, and Entrepreneurship)** program at BITS Pilani.
- Undergraduate **Research Assistant** at Department of Electrical and Electronics, BITS Pilani.
- Nominated for **Ericsson Educate Program** as part of **DoT's** 100 5G labs Initiative.