MALAY VIRENDRA BHAVSAR

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EDUCATION

University of Texas at Dallas, Master of Science in Computer Science — January 2024 –December 2025

Gujarat Technological University, Bachelor of Engineering in Information Technology — June 2019 – May 2023

SKILLS

Programming	Python, C/C++, Java, Javascript, Bash, GoLang, Rust, HTML, CSS
Frameworks	NodeJS, ElectronJS, ExpressJS, ReactJS, Stripe
Database	MongoDB, MySQL, PostgreSQL, SQLite
Server	Nginx, Apache
Tools	Wazuh (SIEM), GoBuster, Fail2Ban, OpenSSH, NMAP, BurpSuite, Postman, RSYNC, SCP and many more
Compliance	NIST, GDPR, PCI DSS
Concepts	Zero Knowledge Proofs, Cryptography, Distributed Systems (Mutual Exclusion, Checkpointing and Recovery), Public Key Infrastructure

PROFESSIONAL EXPERIENCE

Jr. MERN Stack Developer (Full-time), 3rd Digital Pvt. Ltd., Ahmedabad, GJ India — March 2023 – November 2023

- Developed web, desktop, and mobile applications using the MERN stack, aligning with detailed user requirements and specifications.
- Integrated WireGuard VPN and migrated an internal employee management tool to improve security and increase system efficiency by 70%.
- Collaborated with UI/UX designers to enhance user interfaces and managed seamless deployment across development and production environments.

Backend Developer (Intern), 3rd Digital Pvt. Ltd., Ahmedabad, GJ India — December 2020 – January 2021

- Integrated Google Calendar API to optimize manager-employee meeting scheduling, reducing costs by 30%.
- Developed and deployed Google Firebase Functions to process appointment requests, improving efficiency.
- Designed and implemented APIs for complex filtered data retrievals to support advanced UI functionalities.

Backend Developer (Intern), 3rd Digital Pvt. Ltd., Ahmedabad, GJ India — June 2020 – July 2020

- Developed an ExpressJS backend for a university social events application, managing user registration and event reporting.
- Integrated Google Push Notifications for real-time updates to mobile users, enhancing engagement.
- Implemented an OAuth2 authentication framework with JWT and refresh tokens, supporting secure user access with Google and Facebook sign-in options.

PROJECTS

Shamir's Secret Sharing Scheme Implementation – (Java)

Applied concepts of cryptography and threshold-based security to enhance data confidentiality and fault tolerance in a decentralized environment. Developed a flexible implementation that allows easy configuration of the number of shares and threshold for reconstruction.

Roucairol and Carvalho's Mutual Exclusion Algorithm for Distributed Systems – (Java + Sockets)

Implemented a distributed mutual exclusion service using Roucairol and Carvalho's algorithm in Java, ensuring synchronization and race condition prevention. Utilized socket programming for communication and logical clocks for system state tracking.

Secure Remote Password Protocol Implementation SRP-6a – (Java)

Analyzed, implemented, demonstrated and tested SRP-6a protocol for authentication system with strong cryptographic security and preventing password exposure. Showcased the resilience of the SRP protocol against common network attacks and credential compromises, ensuring forward secrecy.

Chandy Lamport's Snapshot Algorithm for Distributed Systems – (Java + Sockets)

Developed a distributed system using the MAP protocol, focusing on global snapshots and termination detection techniques. Implemented Chandy and Lamport's protocol for consistent snapshot recording and Fidge/Mattern's vector clock protocol to validate snapshot consistency.

Leo Security – (Electron + MERN Stack)

Created a desktop application for secure management of passwords, notes, and remote server settings using AES-CBC-256-bit encryption. Designed an intuitive user interface for efficient access and management of protected information, emphasizing user experience and security. Implemented advanced cryptographic techniques to prevent unauthorized access and ensure data integrity.

Study Leo – (MERN Stack)

Developed an academic management application to help students track exams, deadlines, and notes, enhancing organizational efficiency. Implemented features for managing to-do lists, keeping users organized and on top of academic responsibilities. Designed a user-friendly interface to facilitate easy tracking and management of academic tasks and deadlines.

ADIT Job Portal – (MERN Stack)

Designed and built a job portal tailored for university undergraduates using the MERN stack. Enabled students to create profiles, filter job opportunities, and receive personalized job recommendations via a machine learning algorithm that assesses job fit and hiring likelihood. Facilitated job postings by companies, which are dynamically displayed in a feed accessible to students.

EXTRA CURRICULAR ACTIVITIES

Volunteer, Vintage Computer Festival – University of Texas at Dallas, TX USA

Web Developer, INSPIRO 4.0 IEEE ADIT SB – A. D. Patel Institute of Technology, GJ India

Tech Lead, Code Club ADIT – A. D. Patel Institute of Technology, GJ India