# Mohammad Gous Alam

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## Education

**Kamla Nehru Institute of Technology** — Sultanpur, India
*Bachelor of Technology in Information Technology* — *Aug. 2023 – May 2027*

**St. Joseph's School** — Gorakhpur, India
*Class XII – ISC Board, 93.5%* — *2022*

## Experience

**Contributor - Google Summer of Code 2026** — May 2026 – Aug. 2026
*Mifos Initiative* — *Remote*

- Integrated OpenG2P as a first-class Digital Public Good in Mifos Gazelle using Helm, Kubernetes deployment orchestration, configuration, and ingress
- Automated post-deployment setup with Bash, provisioning beneficiary data, programmes, eligibility, entitlements, funding, and PaymentHub EE/Mojaloop connectivity for end-to-end G2P demonstrations
- Added ARM64 and multi-architecture support using Docker Buildx, enabling OpenG2P deployment across AMD64 and ARM64 environments
- Implemented callback-driven payment reconciliation between OpenG2P PBMS and PaymentHub EE, tracking actual payment outcomes through the Operations API

**Web Developer Intern** — 2025
*Zymo Cars* — *Remote*

- Built and shipped features across Zymo's React-based web and partner platforms, including OTP input, login flows, test-drive workflows, rental subscriptions, and an earnings calculator
- Fixed production issues across customer and admin interfaces involving location fetching, form focus, user-profile editing, and dynamic vehicle pricing
- Implemented test-drive profile data synchronization across web and mobile application databases, ensuring consistent data across platforms
- Delivered 10+ merged pull requests across two production repositories, participating in code reviews and collaborative Git-based development

## Projects

**KubePilot- AI-SRE Platform** | *Java, Quarkus, React, Kubernetes, Fabric8, LiteLLM* — GitHub

- Built a full-stack AI-SRE platform with a React/Vite UI and Quarkus backend, using Fabric8 to snapshot and analyze Kubernetes cluster resources through REST APIs
- Designed an extensible analyzer pipeline with workload owner resolution and finding aggregation to detect crash loops, ImagePullBackOffs, unschedulable pods, and init-container failures
- Integrated cloud and local LLMs through LiteLLM for automated diagnosis and remediation suggestions, with fingerprint-based caching to avoid redundant model calls
- Implemented secure AI operations with credential redaction and Gitleaks CI scanning, alongside isolated analyzer tests and OpenAPI-documented APIs

**Aura — Real-time Encrypted Messaging Application** | *React, Java, Spring Boot, MySQL, Docker* — GitHub

- Built a full-stack real-time messaging platform with React, Spring Boot, MySQL and Docker Compose, separating REST-based application control from WebSocket/STOMP message delivery
- Implemented JWT-based stateless authentication with Spring Security, BCrypt password hashing, and 22 REST endpoints across authentication, users, chats, messages, and key management
- Implemented end-to-end encrypted direct messaging using the Signal Protocol (X3DH + Double Ratchet), with browser-side key generation via WebCrypto and the server operating only on ciphertext
- Built secure key-management workflows including pre-key bundles, one-time prekeys and password-protected encrypted key backups using PBKDF2 and AES-GCM

## Achievements

- Winner — Canara Bank Cyber Suraksha Hackathon 2025, a national-level cybersecurity hackathon; led the team and pitched the winning solution at Global Fintech Fest 2025
- Finalist — Antino E-Hackathon (Top 9 of 500+ teams); Specialist on Codeforces; built and shipped prototypes across 5+ hackathons

## Technical Skills

**Languages**: Java, Python, C/C++, JavaScript, SQL, Bash
**Backend**: Spring Boot, Quarkus, Node.js, REST APIs, WebSockets, JUnit
**Cloud & Infrastructure**: Kubernetes, Helm, Docker, k3s, RKE2, Nginx, Linux
**Databases & Tools**: PostgreSQL, MySQL, Git, GitHub Actions, Fabric8, LiteLLM