

Muhammad Talha Atif

Full Stack Engineer

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SUMMARY

Full Stack Engineer with 2+ years of production experience across full stack web, Android, backend, and AI agent applications. Domain experience spans identity governance and administration, social media platforms, ed tech, and AI-powered booking. Frontend expertise in React.js and Next.js. Backend expertise in Spring Boot and Node.js, building event-driven systems with Kafka, gRPC for inter-service communication, and Redis and BullMQ for caching and async job processing. Working experience in Python and FastAPI, and hands-on with LangChain and LangGraph for AI agent workflows. Particular strength in backend optimization, database schema, API, and cache layer. Comfortable across the full cloud and deployment lifecycle, AWS, Dokploy, Docker, and CI/CD, with a proven record in production Android development.

WORK EXPERIENCE

Full Stack Engineer

[Intimec via MicroTechX](#) Remote, Malaysia

Dec '25 – Jun '26

[Demo](#)

Owned the Access Portal end to end across Spring Boot microservices and the Next.js dashboard, and contributed to platform-wide architecture across audit, logging, and inter-service communication on a compliance-heavy Identity Governance platform.

- Migrated synchronous service-to-service communication from REST to gRPC across Auth, Identity, and Access Portal, cutting inter-service latency by 50%, with retries and a circuit breaker handling downstream failures, and deliberately prioritizing consistency over availability so the system fails safely rather than serving stale identity or access data in a compliance heavy environment.
- Architected a rule-based engine in Java and Spring Boot, using a dynamic SQL predicate builder against PostgreSQL to evaluate attribute-based condition groups that can be added per identity without engine changes, triggered on CRON schedules or Kafka events to assign roles, entitlements, and access items, replacing fully manual provisioning as the platform's core access decision system.
- Refactored the audit log schema to be PII-free, restoring compliance alignment without losing forensic traceability, and resolved a Spring AOP self-invocation bypass that was silently skipping audit advice on critical methods.
- Built a shared component library and standardized the theme and color system across the Next.js dashboard, replacing ad hoc, duplicated UI code with components the whole team adopted, cutting UI code duplication by 50% and eliminating visual drift across every new feature.
- Diagnosed a schema drift issue causing production analytics failures on a 5M+ document OpenSearch index, then executed a zero-downtime migration using alias switching, new index, background reindex, verify, atomic swap, restoring analytics to handle 100K+ logs per cycle without failure.
- Designed an event-driven Kafka pipeline for approval, rejection, and provisioning workflows, replacing synchronous REST calls where one service outage could break the entire approval chain, with dead letter queues catching failures instead of losing them silently.

Full Stack Engineer

[Digital Upgraders LLC](#) Remote, Dubai

Sep '25 – Jan '26

[Demo](#)

Built and maintained backend APIs and frontend features for a production social platform serving photographers, videographers, and creative professionals across web and mobile.

- Cut feed load time from 3s to 700ms by fixing query structure, indexing, payload size, and caching bottlenecks across the production feed system.
- Fixed duplicate notifications by redesigning concurrent write flows with proper database transactions, restoring consistency across the notification system.
- Fixed inconsistent scroll-to-hide header behavior across Android, iOS, and Safari by tracing how each platform actually fired scroll events, since Safari's scroll mechanism diverged sharply from Android's, and adjusting the tracking logic per platform instead of assuming one implementation would work everywhere.

- AWS's operational cost and infrastructure overhead had become hard to justify and manage at the platform's scale, so I led a zero-downtime migration to Fly.io, reworking infrastructure, CI/CD, DNS, and service configuration on a live production platform without disrupting real users.
- Fixed a production authentication bug where the OAuth token and JWT token were both being stored under the same cookie key, silently overwriting each other and dropping user sessions, tracing the root cause through production logs and redesigning token storage so each token persists under its own key.
- Refactored the frontend codebase by applying separation-of-concerns design patterns, splitting logic into hooks, types, and components instead of one tangled structure, so the codebase could actually scale without repeatedly re-touching the same files.

PROJECTS

Moodly | AI Experience Booking Platform | [Demo](#)

- Built a production-ready mood detection pipeline classifying across 5 emotions, engineered for sub-2-second latency and 85%+ accuracy, fast and trustworthy enough to actually drive booking recommendations, not just a research-grade demo.
- Replaced a 15+ minute manual listing form with an AI voice onboarding flow, transcribing the host's spoken description through voice-to-text and automatically populating the experience data fields from it, cutting listing creation time to under 3 minutes.
- Cut mood-based recommendation latency from 3.2s to 380ms, an 88% improvement, by pre-computing mood-to-experience mappings and serving them from Redis instead of hitting the database on every request, with a 5 minute TTL explicitly invalidated whenever the underlying experience data changes.
- Implemented the event booking flow with idempotency guarantees so a retried or duplicate request can never create a duplicate booking, and built the notification channel on BullMQ to handle delivery reliably outside the booking request path.
- Shifted mood detection from an async background job to a synchronous call in the request path, prioritizing a correct, immediate result over an always-available but incomplete one, since the feature only works if the user sees their mood-based recommendation the moment they ask.
- Owned the full infrastructure stack as a solo engineer, containerizing every service with Docker and using Docker Compose for consistent parity between development and production, backed by RDS for managed Postgres and S3 for voice and image storage.

Memingo | Language Learning Platform | [Demo](#)

- Identified and resolved a critical leaderboard bottleneck where rankings were recalculated on every read request, replaced with a write-time precomputed cache, reducing API response time from 30 seconds to 90ms and eliminating the drop-off on the rankings screen.
- Built 9 interactive lesson format components on the frontend and a real-time object detection module on the backend that intercepts camera frames, runs item classification, and returns vocabulary and cultural context as a single structured API response.
- Integrated a conversational AI chatbot with session-aware context management and structured output parsing, delivering personalised learning recommendations that adapt based on the learner's progression state across sessions.

SKILLS

Backend Java, Spring Boot, Spring MVC, Spring Security, Spring AOP, Node.js, Express.js, NestJS, FastAPI, Python, REST APIs, gRPC

Frontend Next.js, React.js, React Native, TypeScript, JavaScript, Tailwind CSS, Shadcn UI, Framer Motion

Architecture Microservices, Event-Driven Architecture, Distributed Systems, Kafka, RabbitMQ, WebSockets

Databases PostgreSQL, MySQL, MongoDB, SQLite, Redis, Supabase, Firebase, OpenSearch

Security JWT, OAuth 2.0, RBAC, Rate Limiting, Spring Security, Input Validation

Cloud AWS (S3, RDS, EC2), Firebase, Supabase, Dokploy, Fly.io

DevOps Docker, GitHub Actions, CI/CD, Maven, Git

Tools Postman, Swagger, Stripe, VS Code, IntelliJ IDEA

AWARDS

Runner-up, App Development Hackathon (2025)

May '25

Organized by Punjab University

Ranked, ICPC Asia Topi Online Programming Contest (2024)

Nov '24

Organized by International Collegiate Programming Contests

EDUCATION

Bachelor's degree in Computer Science, University of Management and Technology – UMT *Oct '21 – Aug '25*