

Sk Masum Ali

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Summary

Android Engineer focused on clean architecture, system-level APIs, and on-device processing. Experienced in building production-grade applications in Kotlin and Jetpack Compose with an emphasis on data privacy, local heuristics, and offline-first design. Multi-time hackathon winner adept at rapid prototyping and delivering fully functional products under tight constraints.

Education

JIS College of Engineering

2024 – 2028

Bachelor of Technology in Computer Science and Engineering

Technical Skills

- **Languages:** Kotlin, Java, TypeScript, Shell
- **Mobile:** Jetpack Compose, Room, Hilt, Coroutines, Flow, Retrofit, MVVM, MVI, Clean Architecture, Multi-module Gradle, Glance API, WorkManager, VpnService
- **Security:** SQLCipher, Android Keystore, Biometric Authentication
- **Tools:** Git, GitHub, Android Studio, Firebase, REST APIs, Linux

Projects

- **Cipher – Privacy-First Personal Finance App** [GitHub](#) [🔗](#)
 - Engineered an on-device personal finance app that automatically captures transactions via the Notification Listener API and SMS broadcasts; built a heuristic categorizer covering 48+ Indian merchant brands and 6 UPI regex patterns, increasing extraction accuracy from 45% to 88% (validated by 49 unit tests).
 - Implemented AES-256 full database encryption via SQLCipher and Android Keystore-backed biometric authentication, ensuring complete user privacy with a strictly offline, zero-network architecture.
 - Built an interactive MVI-based financial dashboard featuring high-performance Vico charts, automated subscription detection, and Glance API home screen widgets.
- **Vigil – On-Device Network Monitor** [GitHub](#) [🔗](#)
 - Built a passive, non-blocking DNS VPN tunnel using VpnService – manually parsing raw IPv4/UDP packets byte-by-byte to audit device traffic with zero networking libraries, preserving 100% connectivity.
 - Engineered an in-memory reverse-label trie classifying 83,600+ tracker domains in O(labels) complexity, achieving instantaneous subdomain wildcard matching without database queries.
 - Implemented a thread-safe memory buffer that batches DNS logs (50 items or every 2s) before flushing to Room DB, eliminating I/O bottlenecks; structured as a strict 8-module MVVM Gradle project.

Achievements

- **IEM HackOasis 2.0 (Winner) – Sep 2025** [Project](#) [🔗](#)
 - Won 1st place building an AI-powered multi-cloud cost optimization assistant – delivered a complete, demo-ready product within the hackathon timeframe.
- **Hexafalls Hackathon (2nd Runners Up) – Jul 2025** [Project](#) [🔗](#)
 - Built a fully functional AI-powered VS Code extension as a two-person team within 32 hours – natural language queries, dead code detection, snapshot recovery.
- **Open Source – Canner, AI-Powered LinkedIn & Twitter Assistant** [GitHub](#) [🔗](#)
 - Built the landing page and extension popup UI in React and TypeScript; contributed backend response sorting logic in Flask.