

RUDRESH RAJVANSH

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SUMMARY

Second-year B.Tech Computer Science student (CGPA 8.84) building production-grade software: an Android password manager with NIST post-quantum cryptography, an adaptive testing platform in Rust running live on Google Cloud with a director-endorsed pilot, and my college club's app in production on Google Play. Focused on Android (Kotlin, Jetpack Compose) and Rust backend development. Triple AWS certified.

TECHNICAL SKILLS

Android	Kotlin, Jetpack Compose, MVVM, Hilt, Coroutines, Room, REST APIs (Retrofit), WorkManager, Foreground Services, Credential Manager API, BiometricPrompt, Material Design 3
Rust	Axum, Tokio, sqlx, async/await, Cargo workspaces
Cloud & DevOps	GCP (Cloud Run), Docker, GitHub Actions, Firebase (Auth, Firestore, FCM, Crashlytics), Git
Databases	PostgreSQL, SQLCipher, Room/SQLite
Security	ML-KEM-768 (FIPS 203), ML-DSA-65 (FIPS 204), AES-256-GCM, Argon2id, FIDO2/WebAuthn, Android Keystore (StrongBox/TEE)

PROJECTS

QSAFE — POST-QUANTUM ANDROID PASSWORD MANAGER

2025 – Present | Kotlin, Jetpack Compose, Hilt, SQLCipher, BouncyCastle

Solo project | In development | [Source](#)

- Built a 27-screen Android password manager, TOTP authenticator, and passkey provider using **post-quantum cryptography**: ML-KEM-768 encapsulates the vault key, and ML-DSA-65 signatures are verified before every decrypt so tampered records never open.
- Implemented the full Android credential stack — **Autofill**, passkeys via **Credential Manager** (Android 14+), and biometric unlock backed by hardware-protected keys (StrongBox/TEE).
- Designed it so secrets never leave the device: Argon2id key derivation, SQLCipher-encrypted storage, and breach checking via k-anonymity (only a 5-character hash prefix is ever sent).

NEXUS — ADAPTIVE ASSESSMENT PLATFORM

2026 – Present | Rust, Axum, sqlx, PostgreSQL

Creator & lead developer | Live on GCP Cloud Run | Endorsed by college director for pilot | [Demo](#) | [Source](#)

- Built and deployed a **Rust (Axum)** backend that adapts test difficulty per student using Item Response Theory and Bayesian ability estimation — the test stops when the estimate converges, not at a fixed question count.
- Found a critical authorization bug (IDOR) during a security review, fixed it, and wrote an authorization test suite to keep it fixed — all 9 audited attack vectors now correctly return 403. ~90 unit tests overall.
- Integrated multiple LLM providers (Claude, GPT-4, Gemini) behind per-provider circuit breakers with retry and fallback, so one provider failing doesn't take down question generation.

E-CELL KIET — CLUB ANDROID APP

2025 – Present | Kotlin, Jetpack Compose, Hilt, Firebase, Retrofit

Android developer — current lead maintainer (team project) | Live on Google Play | [Live](#)

- Maintain and extend the club's production app used for fest event registration: role-aware navigation, team creation and joining via invite codes, Razorpay-paid registrations, and QR-based attendance and kit scanning (CameraX + ML Kit) gated by admin access levels.
- Built out the app's modern **Jetpack Compose** layer (OTP-based auth, home and event feed, profiles) alongside the legacy XML codebase in a single-Activity architecture with Hilt and MVVM, serving both Firestore and REST backends.

FOCUSJAR — ANDROID FOCUS TIMER

2026 | Kotlin, Jetpack Compose, WorkManager, Firebase

Solo project | In development | [Source](#)

- Built a Pomodoro app where each finished session drops a marble into a jar — with a timer that survives screen-off, backgrounding, and reboot via a **Foreground Service** and WorkManager jobs (midnight streak checks, daily reminders).
- Integrated in-app review and update flows, Firebase Crashlytics and push notifications (streak alerts, milestones), and Google Drive backup with duplicate detection on restore.
- Drew the marble jar and analytics charts by hand on Canvas, including spring-physics marble animation and five color themes.

RUDRACRYPT — KOTLIN POST-QUANTUM CRYPTO LIBRARY

2026 | Kotlin, BouncyCastle, JVM + Android

Author | Pre-release | [Source](#)

- Extracted QSafe's cryptography into a standalone, misuse-resistant library (AES-256-GCM, Argon2id, ML-KEM-768, ML-DSA-65) with versioned self-describing tokens and one runtime dependency; wrote six security-property tests covering tamper detection and wrong-password rejection.

CERTIFICATIONS

AWS Certified Solutions Architect — Associate (SAA-C03)

Amazon Web Services

AWS Certified Cloud Practitioner (CLF-C02)

Amazon Web Services

AWS Certified AI Practitioner (AIF-C01)

Amazon Web Services

EDUCATION

Bachelor of Technology (B.Tech), Computer Science

2025 – Expected 2029 | CGPA: 8.84 / 10

KIET Group of Institutions, Ghaziabad | Dr. A.P.J. Abdul Kalam Technical University (AKTU)

OPEN SOURCE CONTRIBUTIONS

- **attendance-kiet** — Designed and implemented a per-subject attendance projection algorithm that shows students the exact impact of skipping specific upcoming lectures, handling varying lecture totals per subject; PR reviewed and merged to production (React/TypeScript codebase). 2025 [Pull Request](#)