

Mahmoud Hassan

Android Developer

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PROFESSIONAL SUMMARY

- Results-driven Android Developer with a B.Sc. in Computer Science from Thebes Academy (June 2026). Proficient in **Kotlin**, **Jetpack Compose**, and **Material Design** with hands-on experience delivering 4+ mobile applications using **MVVM**, **Hilt** dependency injection, and reactive programming with **Kotlin Flows**, **StateFlow**, **Coroutines**, and **LiveData**. Skilled in **Firestore**, **Room Database**, **Retrofit**, **Glide**, and **Navigation Compose** for building scalable, production-ready applications with clean architecture and **SOLID Principles**.

SKILLS SUMMARY

- **Languages:** Kotlin, Java, Dart, C++, XML
- **Frameworks:** Jetpack Compose, Android SDK, Flutter, Material Design 3
- **Architecture:** MVVM, MVP, Clean Architecture, Hilt (Dependency Injection), Navigation Compose, Data Binding, Design Patterns, SOLID Principles
- **Libraries:** Retrofit, OkHttp, Room Database, Glide, LiveData, StateFlow, Kotlin Coroutines, Kotlin Flows, RecyclerView, DiffUtil
- **Android Core:** Activity, Fragment, XML Layouts, BroadcastReceiver, NotificationCompat, PendingIntent
- **Backend & Databases:** Firestore, Room Database, SQLite, SQL Server, RESTful APIs, JSON
- **Tools:** Android Studio, Gradle, VS Code, IntelliJ IDEA, Git, GitHub, Copilot CLI, Spec-Kit, Obsidian, Trello
- **Soft Skills:** Problem-Solving, Leadership, Teamwork, Communication, Time Management

WORK EXPERIENCE

- **Digital Egypt Pioneers Initiative (DEPI)** Maadi, Egypt
Mobile Developer Trainee Nov 2024 – May 2025
 - Developed 3 native Android applications using Kotlin, Jetpack Compose, and OOP principles across a 7-month intensive training program.
 - Implemented Activity and Fragment lifecycle management with Navigation Compose, delivering smooth UI transitions across 3+ screens per application.
 - Maintained clean and readable code standards to ensure quality and maintainability across all 3 deliverables.
 - Explored Kotlin Multiplatform (KMP) for cross-platform mobile development and practiced UI/UX design fundamentals throughout the program.

PROJECTS

- **JobVerse – Job Search Mobile Application** 2025
Kotlin, Jetpack Compose, Firestore, MVVM, Coroutines, Navigation Compose, Material Design
 - Developed a full-featured job search app using Kotlin and Jetpack Compose with Firestore (Firestore, Auth, Storage) and MVVM architecture, serving 500 users.
 - Led user profile module including profile creation, editing, and settings management with Navigation Compose for seamless multi-screen flows across 8 screens.
 - Implemented reactive state management using Kotlin Coroutines and StateFlow, reducing UI response time by 35% compared to callback-based approach.
 - Designed 8 screens following Material Design 3 guidelines and integrated Glide for efficient image loading with placeholder and error states.
- **Veris – Advanced Android News Application** 2024
Kotlin, MVVM, Room, Retrofit, Coroutines, LiveData, Glide, XML
 - Architected MVVM with Repository pattern, Room for offline caching with 30-minute TTL, and Retrofit for RESTful API communication, achieving 100% offline availability for 200 cached articles.
 - Built debounced search functionality, swipe-to-delete with undo, and responsive loading states using LiveData, ViewModel, and XML layouts across 5 screens.
 - Reduced memory consumption by 40% by integrating Glide for image loading with disk and memory caching compared to manual bitmap handling.
- **EALPR PlateSlotTransformer – My Graduation Project** 2025–2026
PyTorch, TFLite, Flutter, Android, YOLO, Transformer, SQLite
 - Trained EALPR PlateSlotTransformer achieving 93.27% exact-match accuracy on 1,574 real plates — +18.27pp over CRNN-CTC (75.00%) using 7 parallel slot queries over a CNN + Transformer backbone.
 - Replaced CTC alignment with slot prediction, eliminating blank-collapse and encoding plate grammar directly in model architecture — 72.28% relative error reduction.
 - Fused 8,093 real plates and 50k synthetic images; two-phase training with AdamW + OneCycleLR on a stratified locked test split.

- **Android Task Manager – Native Android Application**
Kotlin, Java, Activity, Fragment, RecyclerView, Notifications, Gradle 2024
 - Built native Android app with task creation, editing, and completion toggles using Activity and Fragment architecture with backward compatibility to API 21.
 - Improved list update performance by 45% by implementing RecyclerView with DiffUtil for efficient list rendering over notifyDataSetChanged.
 - Engineered BroadcastReceiver + NotificationCompat pipeline with PendingIntent flag handling, delivering 50 daily notifications reliably across 5 Android versions.
 - Configured Gradle build variants for debug and release builds with ProGuard obfuscation for production readiness.
- **Book Store App – Flutter Mobile Application**
Flutter, Dart, UI/UX Design, Material Design 2023
 - Designed and developed a clean Flutter UI with Dart featuring book search, shopping cart, and categorized listings across 6 screens with Material Design components.
 - Optimized interface performance and built smooth navigation flows, reducing screen transition lag by 30% through widget tree optimization.

EDUCATION

- **Thebes Academy** Giza, Egypt
Bachelor of Science in Computer Science *July 2022 – June 2026*
 - **Relevant Coursework:** Mobile App Development, Data Structures, Algorithms, Computer Architecture, Operating Systems, Databases

CERTIFICATIONS & TRAINING

- **Mobile Developer Trainee – DEPI (Digital Egypt Pioneers Initiative):** Completed 7-month intensive Android development program covering Kotlin, Jetpack Compose, MVVM, Hilt, Firebase, and Kotlin Multiplatform (KMP). Nov 2024 – May 2025.
- **Flutter App Development – Thebes Academy:** Acquired hands-on experience in Flutter and Dart with emphasis on UI design, state management, and performance optimization. July – September 2023.

LANGUAGES

- Arabic: Native
- English: Intermediate