

Khaled Saad Abbass

Senior Flutter Engineer | Enterprise Mobile Applications | Offline & Scalable Systems

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-  Pub.dev: pub.dev/packages/yuv_to_png

Summary

Senior Flutter Engineer with 5+ years of experience building scalable, production-grade mobile applications with strong backend integration. Experienced in developing enterprise applications, handling REST APIs, local data storage, and offline-first functionality. Skilled in designing maintainable architectures, optimizing performance, and ensuring reliable application behavior under real-world conditions. Proven ability to refactor legacy systems, improve stability, and deliver high-quality mobile solutions.

Core Expertise

- Flutter & Dart (Advanced)
- Clean Architecture, SOLID, Design Patterns
- State Management (Bloc, GetX, Provider)
- WebSockets & Real-Time Communication
- Image & Video Streaming
- Native C++ Flutter Plugins (NDK)
- Camera & Media Processing
- Performance Optimization & Profiling
- CI/CD (Codemagic)
- Crash Analytics & Debugging
- REST APIs & Backend Integration

Technical Skills

Mobile & Frontend

- Flutter, Dart, Android, Kotlin

Architecture & Patterns

- Clean Architecture, SOLID, MVC, MVVM, Feature-First Architecture

Real-Time & Media

- WebSockets, Image Streaming, Camera APIs, JPEG/YUV Processing, Media Pipelines

Native & Low-Level

- C++, Flutter Platform Channels, Android NDK

Backend & Data

- Node.js, REST APIs, MongoDB, PostgreSQL, MySQL

DevOps & Tooling

- Git, Codemagic CI/CD, Jira, Crash Analytics, Performance Profiling

Software Developer (Contract)

March 2023 – present

BOT Company Feed Back : [Eng Muhammed Ahmed](#)

Egypt

- Developed high-performance mobile pipelines integrating Flutter, Kotlin, and native C++ for real-time image processing.
- Built an image streaming system capable of extracting structured data from Egyptian national IDs in ~350ms, optimized for low-latency mobile execution.
- Implemented native C++ image processing modules to significantly outperform pure Dart solutions.
- Contributed to facial recognition systems, enhancing security by integrating AI-based liveness detection.
- Integrated in-app purchases, store functionality, and group features for a large-scale entertainment application.
- Improved app stability through advanced debugging, memory optimization, and crash reduction.
- Worked closely with frontend and backend teams to synchronize offline-first data and server updates.

Flutter Engineer

[INGAZ](#)

April 2024 – February 2025

Cairo, Egypt

- Refactored and modernized a **legacy enterprise HR Flutter application**, upgrading it to the latest Flutter and Android versions.
- Applied **Clean Architecture** and Bloc-based state management to improve maintainability and scalability.
- Led performance improvements and codebase restructuring without disrupting production stability.
- Built a **QR code scanner** from scratch using Camera APIs and Google ML Kit, optimized for broad device compatibility.
- Developed reusable form components with advanced validation and error handling.
- Enforced Flutter/Dart coding standards and best practices through code reviews.

Flutter developer

[Atadel \(Remote\)](#)

July 2022 – April 2024

Canada

- Fixed critical memory leaks and performance bottlenecks, achieving **~30% speed improvement** and **~20% memory reduction**.
- Resolved high-impact production bugs, improving user experience and app stability.
- Collaborated with cross-functional teams to deliver timely updates and UI/UX enhancements.
- Participated in scaling features while maintaining clean, readable codebases.

Software Developer

Air defence college

June 2021 - June 2022

Egypt

- Improved application performance by resolving memory leaks and optimizing runtime behavior.
- Fixed critical bugs in production systems, increasing system reliability.
- Worked closely with high ranked generals to ensure stable feature delivery.

Flutter Developer

[Hwaya Design](#)

Aug 2020 - May 2021

Egypt

- Developed Flutter mobile applications, including a high-traffic Ramadan campaign website delivered in **3 weeks**.
- Built an **e-learning platform (Pixel Academia)** with **10k+ downloads** using Flutter and Firebase.
- Early adopter of **Flutter Web**, contributing to production-ready deployments.

Personal Projects

Real-Time Chat Application (Full Stack)

- Technologies: Flutter, Bloc, Node.js, MongoDB, WebSockets, C++
- Built bidirectional real-time communication using WebSockets.
- Developed a **custom C++ image streaming plugin**, delivering **~85% better performance** compared to Dart-only processing.
- Designed scalable architecture using MVC and abstraction-based patterns.

Flutter C++ Image Converter Plugin

- Published on [pub.dev](#)
- Converts image frames efficiently using the only C++ library available to Flutter.
- Used in real-time camera and media-heavy applications.

Education

Faculty of Science	September 2016 - June 2020
Bachelor's Degree in Statistics	
Faculty of Science	September 2025 - ongoing
Master's Degree in Computer Science	
Udacity	December 2022 - February 2023
Android Nano degree Course	