RIFKI ROSADA

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High-performance Android Engineer specialized in building offline-first native applications using Kotlin and Jetpack Compose. Proven expertise in optimizing memory-intensive features (Edge AI/TFLite) on constrained devices, directly aligning with mission-critical field requirements. Experienced in architecting resilient local data layers to ensure zero data loss in unstable network environments, with a strong foundation in algorithms and C++ integration.

KEY ACHIEVEMENTS

- **Published AI Researcher:** First author and presenter for "Evaluating YOLO Variants for Real-Time Multi-Object Detection of Strawberry Quality and Ripeness," published in IEEE Xplore. Benchmarked model inference speeds (<200ms) on mobile hardware, optimizing for low-latency environments.
- **Offline-First Engineering:** Architected the "I-ScanTea" application to run fully offline using local TFLite inference, eliminating server dependency for field usage.
- **Production Stability:** Registered Indonesian Copyright (HKI) for "Scanberry," a production-grade Android app built with Clean Architecture to ensure modularity and testability.

PROJECTS (PERFORMANCE & EDGE AI)

I-ScanTea: Offline Tea Disease Classification (Edge AI) | *Freelance Engineering Project*

- Engineered a fully offline inference engine using TFLite, eliminating the need for server round-trips to support usage in remote agricultural areas.
- Diagnosed and resolved a critical pre-processing tensor mismatch bug that was causing prediction drift, restoring model accuracy to 99% on low-end devices.
- Built a custom chart rendering system in Jetpack Compose to visualize confidence levels in real-time without UI jank.
- Tech Stack: Android Native, Kotlin, TFLite, Coroutines, Custom View.

Scanberry: Real-Time Quality Classification App (Cloud-Integrated) | *Thesis Project*

- Implemented Kotlin Coroutines and Flow to manage complex asynchronous state (Loading/Success/Error) for high-res image uploads, ensuring the main thread remained unblocked.
- Structured the app using MVVM and Clean Architecture principles to decouple UI logic from data layers, facilitating unit testing and scalability.
- Secured Intellectual Property rights (HKI No. 000911200) for the original software architecture.
- Tech Stack: Kotlin, Jetpack Compose, Retrofit, Coroutines, MVVM.

Evaluating YOLO Variants for Real-Time Object Detection | *IEEE Research (First Author)*

- Conducted comparative benchmarking of YOLO architectures (v5, v8, v11) to identify the optimal balance between mAP precision (0.942) and inference speed on mobile CPUs/GPUs.

- Curated and annotated a custom dataset of 3,055 images to train robust computer vision models for variable field conditions.

PROFESSIONAL EXPERIENCE

Android Developer Intern | PT. Svara Inovasi Indonesia | (Oct 2025 – Present)

- Refactored core features for the 'Talentid' app to enable robust offline-mode support, implementing persistent local storage (SharedPreferences) for users in unstable network conditions.
- Maintained and stabilized the legacy 'svara-android' codebase (Java/XML) by diagnosing and resolving critical crash loops and memory leaks to improve app reliability.

Android Developer Intern | Digital Oasis Software House | (July 2024 – September 2024)

- Led the end-to-end development of a new NFC feature, translating client requirements into a functional tap-to-interact solution.
- Redesigned the payment history screens using Kotlin and XML, optimizing user flows and improving data readability for high-volume transactions.

Research Assistant | Cyber Physical System Laboratory (Telkom University) | (Aug 2023 – May 2025)

- Engineered full-stack IoT prototypes using C++ (Arduino/ESP32), integrating embedded sensors with cloud data pipelines for real-time monitoring.
- Developed data streaming pipelines to visualize sensor telemetry on mobile and web dashboards, optimizing data transmission rates for low-bandwidth environments.

Certifications & Professional Programs

Mobile Engineering Fellow (Android) | Bangkit Academy (Led by Google, GoTo, Traveloka)

- **Curriculum:** Completed 900 hours of intensive training focused on Modern Android Development, Jetpack Compose, and Cloud API integration.
- **Achievement:** Graduated with an 'A' grade average, demonstrating mastery of MVVM architecture and professional engineering practices.

EDUCATION

Telecommunication Engineering, Telkom University, Bandung | Graduated: July 2025

- GPA: 3.61 / 4.00
- **Relevant Coursework:** Mobile Application Development, Artificial Intelligence, Microprocessor & IoT, C++ Programming.

TECHNICAL SKILLS

- **Core Engineering:** Kotlin (Expert), Java, C++ (NDK familiarity), Jetpack Compose, Clean Architecture, MVVM.
- **Performance & AI:** Offline-First Architecture, TFLite (Edge AI), Memory Optimization, Multi-Threading (Coroutines/Flow), Unit Testing.
- **Tools:** Git, Android Studio, Gradle, Firebase, REST APIs, CI/CD concepts.