

# Chalanthorn Chanmathikornkul (Jojo)

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## WORK EXPERIENCE

Summary: Android engineer specializing in Jetpack Compose rewrites, secure mobile architecture, Coroutines, and native/ML integrations. Experienced with Kotlin DSL, build flavors, R8 optimization, Firebase analytics, and JNI/C++ pipelines for high-performance on-device inference.

**Tri Service General Hospital, Digital Medical Center (AI)** Taipei, Taiwan  
*Android Developer* 09/2024 – Present

- **Rebuilt the 100K+ user TSGH Helper** app on a **completely new codebase**, delivering a Jetpack Compose + MVVM architecture **built on Coroutines and Flow**, bilingual (Chinese/English) modernization, and selectively migrating critical legacy features.
- **Boosted product stability and user satisfaction**, raising the Play Store rating from **3.2 to 4.8** and reducing crash rates from **1% to 0.05%** through Firebase Analytics, Crashlytics, controlled rollouts, and forced-update flows.
- **Implemented enterprise-grade mobile security**, adding JWT session management with encrypted, persistent storage, biometric verification, and protection against screenshots/overlays aligned with modern best practices.
- **Engineered native on-device ML**, deploying a legacy MXNet ECG model via Apache TVM with a custom **C++ runtime + JNI** bridges, resolving ABI mismatches, linker issues, and NDK compatibility challenges.
- **Integrated critical external SDKs**, including Webex, bridging legacy Android Views with modern Compose UI for seamless interoperability.
- **Strengthened engineering quality**, adding JUnit 5 + Robolectric tests, UI tests, and Gradle/R8 optimizations reducing regressions across mission-critical features.
- **Identified and filed** a reproducible Jetpack/Android framework bug to Google’s Issue Tracker which was accepted and resolved upstream by Google engineers.

**Tech Stack:** Kotlin, Jetpack Compose, Coroutines, Flow, Hilt, Retrofit, WorkManager, Firebase (Crashlytics/Analytics), JUnit 5, Robolectric, OKHttp, WebSocket, C++ (NDK), JNI

**Frontier.cool** Taipei, Taiwan  
*AI Engineer Intern* 07/2023 – 06/2024

- **Model Development:** Developed a textile classification, improving accuracy **from 50% to 85%** using PyTorch.
- **API Development:** Deployed a production-level machine learning model **API** on AWS Lambda for textile classification.

**Tech Stack:** PyTorch, Docker, AWS Lambda, AWS S3, Postman, Python, OpenCV

**National Tsing Hua University** Taipei, Taiwan  
*Private Tutor* 09/2023 – 06/2024

- **Tutoring:** Aided 5 students in Python, C, Computer Architecture (RISC-V), and SQL.

## EDUCATION

**National Tsing Hua University, BS, Electrical Engineering and Computer Science** Hsinchu, Taiwan  
▪ GPA 3.91/4.3 (Top 6/34) | Academic Excellence Award 2023 | Scholarship 2020 - 2024 2024

## PROJECTS

**TaipeiTrash** (Play Store) **Tech Stack:** Kotlin, Jetpack Compose, Google Maps SDK, Room 2025  
A city utility app that helps residents locate nearby garbage trucks and public trash bins.

**Compiler Design** **Tech Stack:** Lex, Yacc, C, Linux 2024  
Developed a C Compiler, implementing lexical analysis, parsing, semantic analysis, code generation, and optimization.

**Lifeline** (Android Developer, UX/UI Designer) **Tech Stack:** Kotlin, Jetpack Compose, SQL, Hilt, Figma 2022  
An Android to-do application designed to enhance users' planning by prioritizing tasks based on duration and deadlines.

## AWARDS

**Thailand Olympiad in Informatics: Competitive Programming (C++), Bronze Medal** 2019

**NECTEC: Thailand National Software Contest** An app to simplify work attendance using geofencing in Java. 2017

## SKILLS & INTERESTS

**Languages:** Thai (Native), English (Fluent) (TOEIC – 910/990, TOEFL iBT – 96/120), Chinese (Intermediate)

### Technical Skills:

Programming: Kotlin, C++, Python, Go, SQL, Java  
Frameworks: Jetpack Compose, Hilt, Retrofit, Supabase, Firebase  
Tools: Git, Docker, AWS Lambda, Linux