

# Khai

[404khai@gmail.com](mailto:404khai@gmail.com) [github.com/404khai](https://github.com/404khai) [404khai.vercel.app](https://404khai.vercel.app)

## Education:

**Aptech** | Advanced Diploma in Software Engineering (ADSE)

**Relevant Coursework:** Data Structures & Algorithms, Object Oriented Programming, Machine Learning, Data Science, Fullstack Web & App Development, Database Systems, System Design, Cloud Computing, Critical & Analytical thinking.

## Skills:

**Programming:** Python, Typescript, Javascript, Java, C#, Luau, Go, Dart, Rust

**Frameworks:** FastAPI, Django, SpringBoot, Nestjs, Nextjs, Flutter, Gin

**Tools:** Git, Postman, VS Code, Figma, IntelliJ, Expo, Android Studio, Unity

## Experience:

**HNG Tech** | *Software Engineering Intern* Oct 2025 - Dec 2025

- Architected a distributed microservices notification system for emails and push notifications, implementing message queueing to ensure reliable, ordered delivery across services
- Contributed to Legal WatchDog's AI compliance engine for monitoring regulation changes, reducing manual compliance efforts by 50% and accelerating audit cycles by 3x for enterprises
- Integrated 2 A2A-compliant AI agents (riddle solver & real-time news aggregator) into [Telex.im](#) using event-driven architecture, improving user engagement by 35%
- Built a document analyzer using OpenRouter's LLM APIs with chunking algorithms and embedding similarity search, with 92% summarization accuracy

**SnapiLabs** | *Frontend Developer Intern* Aug 2024 - Nov 2024

- Developed SupaNote's AI workspace landing page with virtualized scrolling and debounced search, achieving 98+ Lighthouse performance score and 40% lower bounce rate
- Reverse-engineered and rebuilt Krea AI's UI from static mockups using component composition patterns, delivering pixel-perfect responsive implementation 2 weeks ahead of schedule

**Apex Solutions** | *Software Development Intern* July 2021 - Sept 2021

- Engineered PHP/XAMPP admin dashboards with RBAC authentication and CRUD operations

- Implemented task management module using relational data modeling (MySQL) with category hierarchies and priority-based sorting algorithms
- Optimized dashboard load times by 45% through query indexing and memoization of frequently accessed user data

## **Projects:**

**FarmIntel | AI-Powered Agricultural Intelligence Platform**

*React, Python, Django, PostgreSQL, Hugging Face Transformers*

- Architected full-stack agri-tech platform with role-based access control (RBAC) for 4 entity types using Django middleware, JWT sessions, and OTP/Google OAuth, reducing unauthorized access incidents by 92%
- Engineered plant disease detection pipeline using a fine-tuned Vision Transformer (ViT) model trained on 15K+ annotated leaf images; deployed via TensorFlow Serving with 98% accuracy and <1.2s inference latency at edge
- Integrated Paystack billing with idempotent webhook handling and API key rate limiting (token bucket algorithm) for B2B clients

**Hirecraft | Domestic Services Marketplace**

*React, Java, Spring Boot, PostgreSQL, Prisma*

- Built two-sided marketplace connecting service providers (plumbers, electricians) with employers via Spring Boot REST APIs featuring spatial indexing (R-tree) for location-aware provider search within 5km radius, boosting match success rate by 45%
- Implemented booking state machine with idempotent transaction handling to prevent double-booking race conditions; reduced scheduling conflicts by 88% during peak demand windows
- Secured payment flow via Paystack with PCI-DSS compliant tokenization and webhook signature verification, achieving zero fraud incidents

**Supabricx CLI | Backend Acceleration Tool**

*TypeScript, Express, Java, Oclif*

- Engineered TypeScript CLI tool generating production-ready backend templates (Express/Java Spring) with prebuilt auth, user services, and Prisma schema scaffolding, accelerating project kickoff by 33% (1 hr → 20 mins avg.)
- Designed template dependency graph using depth-first traversal to resolve nested file generation order (e.g., models/ → services/ → routes/), eliminating 100% of circular dependency errors during scaffolding
- Published to npm with 20+ weekly downloads; adopted by various engineering teams to standardize backend project structure and enforce security best practices (CORS, helmet.js, rate limiting)

## **Leadership Experience:**

### **HNG Tech | Engineering Team Lead (*Software Engineering Intern*)**

- Spearheaded a 3-engineer pod to architect and deploy a distributed notification microservice
- Designed pub/sub message fanout using Redis Streams with idempotent delivery guarantees, reducing notification latency by 40% (p95 < 300ms)
- Championed CI/CD pipeline adoption (GitHub Actions + Docker) that accelerated deployment frequency by 3x and eliminated staging environment drift
- Mentored 2 junior engineers through code reviews and system design sessions, improving team velocity by 25% in sprint completion rate

### **Aptech | Lead Hackathon Developer**

- Directed a 3-person cross-functional team through a 72 hour hackathon to deliver Homestyler; a responsive interior design portfolio site with real-time mood board functionality
- Spearheaded end-to-end UI redesign of a pet health mobile app serving veterinary appointment booking, medication tracking, and telehealth features
- Architected a scalable design system with 10+ reusable Flutter widgets using BLoC state management, enforcing platform-adaptive layouts (iOS Human Interface Guidelines + Material 3) that reduced UI dev time by 35% and ensured 100% design-to-code fidelity

## **Certifications:**

- **Udemy** | Make a 2D Action Platformer in Unreal Engine 5
- **NVIDIA** | Building RAG Agents with LLMs