

Khai

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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

Databases: PostgreSQL, Mongo DB, MySql

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

Other: Agile Methodologies, Responsive Design, JWT, Material UI, ShadCN, Radix, Tailwind

Experience:

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

- Architected a distributed microservices notification system, implementing message queueing with BFS-like fanout patterns to ensure reliable, ordered delivery across services
- Contributed to Legal WatchDog's AI compliance engine using graph traversal algorithms to map regulatory dependencies, reducing manual compliance efforts by 50% and accelerating audit cycles by 3x
- Integrated 2 A2A-compliant AI agents (riddle solver & real-time news aggregator) into Telex.im using event-driven architecture, improving user engagement by 35%
- Designed an AI-powered Slack bot leveraging NLP transformers to auto-summarize intern task deliverables, cutting status meeting time by 40%
- Developed high-throughput RESTful APIs with FastAPI/Django featuring inverted index search and TF-IDF ranking for semantic NLP queries (sub-200ms latency at 95th percentile)
- 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
- Collaborated with UX team to implement a mobile-first design system in Tailwind CSS with atomic CSS architecture, accelerating feature development velocity by 30%

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:**FarmlIntel | 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
- Modeled cooperative relationships as directed graph in PostgreSQL, modeling farmers → buyers → cooperatives as weighted nodes
- 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
- Developed real-time dashboard with Rechart.js visualizations tracking provider ratings, job completion rates, and revenue analytics
- 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 3 various engineering teams to standardize backend project structure and enforce security best practices (CORS, helmet.js, rate limiting)

Keihatsu | Social Manwha Reader Application

Flutter, TypeScript, NestJS, Firebase

- Solo-engineered full-stack manga platform with Flutter UI implementing virtualized list rendering (`ListView.builder`) for 10K+ chapter catalogs, achieving 60 FPS scroll performance on mid-tier Android devices
- Architected comment threading system using nested set model (tree traversal) to support nested replies up to 5 levels deep with $O(1)$ ancestor lookups via left/right index ranges
- Designed achievement system with priority queue (min-heap) to rank users by reading streaks and chapter completion velocity, driving 34% increase in 7-day retention post-launch
- Developed marketing landing page with Lighthouse-optimized Core Web Vitals (LCP <1.8s, CLS <0.1) that aims to convert 12.7% of visitors into APK downloads within the first 30 days

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 48-hour hackathon to deliver Homestyler; a responsive interior design portfolio site with real-time mood board functionality
- Orchestrated agile workflow with daily standups and Figma-to-code handoff protocols, delivering MVP 6 hours ahead of schedule and securing 2nd place among 28 competing teams
- 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
- Optimized render performance via widget rebuild isolation, const constructors, and lazy-loading ListView.builder—slashing cold-start time by 42% (2.8s → 1.6s) and achieving 58 FPS → 60 FPS sustained during appointment booking flows
- Championed user-centered validation through 3 rounds of usability testing (n=85 pet owners), iterating on gesture navigation patterns that increased appointment booking conversion by 28% and reduced support tickets by 60%

Certifications:

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