

HANNA TIARA ANDARLIA

Full-Stack Engineer | TypeScript, React Native/Expo, Next.js, NestJS | End-to-End Product & Technical Ownership

Product-minded full-stack engineer who owns complex software from specification through production, with particular strength in mobile systems, TypeScript, and high-integrity workflows.

Depok, Indonesia (GMT+7) | Remote and hybrid since 2021, seeking full-remote

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PROFESSIONAL SUMMARY

Software engineer with six years of production experience building and owning software across mobile, web, backend, and delivery infrastructure, working remote and hybrid across Indonesia and Singapore. Specialises in TypeScript, React Native/Expo, Next.js, and NestJS, with particular experience in offline-first applications, permission-heavy workflows, and systems where correctness directly affects operations and money.

Built a field-operations SaaS from its early stage to 100+ vessels in production across three large customer organisations, growing from frontend and mobile development into end-to-end technical ownership. Today, I define requirements, shape architecture and data models, build APIs and applications, and own the automated checks and release standards for the domain.

Across 1,000+ merged pull requests and 500+ code reviews, I have worked across monorepos and multi-repo systems, including both conventional and AI-assisted development. I focus on making complex software predictable: decisions are documented, changes are tested, permissions are verified, and releases have clear standards for correctness.

This approach has helped turn milestone-sized features that previously required one to three months and a small team into work that can be specified, built, tested, and released in weeks.

CAREER HIGHLIGHTS

- Took a field-operations SaaS from its first months to 100+ vessels in production across three large corporate clients as founding engineer, with over five project workstreams owned end to end.
- Led the end-to-end delivery of major approval workflow capabilities, taking the initial procurement multi-approval configuration from idea to a shipped, production-ready experience in under two months with a team of fewer than five, using conventional software development. Subsequently, independently owned the full lifecycle of its customer-configurable SaaS successor, from ideation through production release, using AI-assisted development, delivering it in under three weeks.
- Ended the approvals bottleneck. Replaced a single hard-coded approver with an engine each customer/client configures itself, so any vessel changes its own approval chain, spending limits and price guards in an afternoon instead of waiting for a release.
- Stopped crews losing completed work at sea. Traced repeated data loss to how people actually work offline, finish a job, switch tablet, lose signal, and rebuilt draft handling so a half-finished job survives whatever the network does.
- Built the release safety net from nothing: 1,000+ repeatable tests across 150+ specs and over 2,000 permission checks per run, certifying a release without ever touching customer data.
- Made every decision traceable: specs, architecture decision records, release notes and user guides ship with the change across all product repositories, so no part of the system depends on one person's memory.

TECHNICAL SKILLS

- Languages: TypeScript, JavaScript, Python, SQL, MATLAB, R
- Mobile and offline-first: React Native, Expo, WatermelonDB, SQLite, versioned schemas and migrations, sync ownership and conflict resolution, draft persistence, offline batch-write performance, EAS build and OTA
- Web: React 19, Next.js 15 (App Router, RSC, Server Actions), Tailwind, shadcn/ui, TanStack Query, Redux Toolkit, Redux Saga, next-intl, nuqs, GSAP, three.js (interactive 3D web)
- Backend and architecture: NestJS (Fastify), Node.js 22, Bun, Yarn, Sequelize, Drizzle, MySQL, versioned REST APIs, ERD, DTO validation, RBAC and permission guards, clean architecture (domain/data/presentation), dependency injection, monorepo and multi-repo (Lerna, Bun workspaces), shared contract packages
- Quality and testing: Playwright end-to-end (API, web, mobile web, cross-app, visual regression), Jest, deterministic fixtures, permission and authority matrices, Sentry
- AI-powered development: Claude Code and agent orchestration, executable operational runbooks, autonomous and harness prompt engineering, prompt-as-spec, agent context engineering (CLAUDE.md, AGENTS.md), review of agent-generated changes, custom skills authoring
- Domain: work order management (CMMS, planned maintenance), asset and component hierarchies, inspections and defect reporting, job scheduling and recurrence, inventory, analytics and reporting dashboards, procure-to-pay and order-to-pay (requisition to purchase/service order to vendor delivery, cost codes), multi-tier approvals, multi-tenant B2B SaaS, health management apps, audit trails, ERP and SAP integration
- Documentation and process: PRDs, ADRs, acceptance criteria, release notes, user guides, operational runbooks, Jira, AI Design Prototype, Figma

PROFESSIONAL EXPERIENCE

Founding Engineer at Altonaut (PT Alto Nautika Teknologi, a venture of Wintermar Offshore Marine Group Tbk)

01/2024 - Present | Jakarta, Indonesia (hybrid)

Employment of record: Software Engineer, Wintermar Offshore Marine Group Tbk

Field-operations and planned-maintenance platform used across 100+ offshore vessels and three customer organisations: an offline-first tablet app for crews at sea where there is no signal, a back-office web app for shore staff, and a vendor portal. Joined in the product's first months, initialising the first codebases as a frontend engineer, and grew into the full path, from requirements, data model and architecture through API, apps, release engineering and production support.

- Designed and delivered a configurable procurement engine and analytics dashboard after identifying that customer fleets followed materially different end-to-end order processes. Replaced a hard-coded approver with sequential/parallel approval chains, spending limits, budget guards, price checks and super-approver overrides, enabling customers to manage their own approval rules without product releases.
- Improved delivery throughput on comparable work, moving milestone-sized features from month-scale delivery towards weeks. For example, the self-service approval configuration was reduced from an initial six-week implementation to under three weeks when rebuilding the generalised version; a major SAP/requisition integration was delivered in approximately two weeks of development followed by two weeks of asynchronous verification and fixes.
- Owned the end-to-end design and delivery of self-service for multi-approval configuration, acting as decision owner across requirements, prototype and UI/UX design, PRDs and architecture decisions. Settled 50+ design questions from real customer usage and implemented the resulting data model, API contracts, NestJS services, validation and dashboard.

- Main contributor to the major procurement revamp with ERP workflows, including SAP integration, cost-code mapping normalisation and component-first requisitions, multi-vendor sourcing, service scopes and deterministic tax calculation. Eliminated a class of double-taxation and rounding errors while coordinating with the third-party SAP system that remains the customer's system of record.
- Rebuilt the offline job workflow after tracing recurring data loss to real crew behaviour rather than sync frequency. Redesigned draft synchronisation, local persistence and recovery flows, including late-sync guards, soft deletion, database migration and resume-on-open, recovering and backfilling affected records and eliminating crashes and endless loading that had undermined crew confidence in the app.
- Owned the planned-maintenance, work-order and due-deviation processes, covering recurring maintenance based on running hours and calendar/date schedules; threshold configurations that drive job status and punctuality compliance; postponement and reopened-history rules; completion workflows triggering defect reports; and CRUD capabilities for combining standard and vessel-specific job structures. Led the underlying job rules and analytics reporting standard that powers vessel and team dashboards used by department heads and directors.
- Built the product's release safety net from nothing, especially for the complex end-to-end procurement process: 1,000+ repeatable Playwright cases across 150+ specs covering API, web, mobile web, cross-app propagation and visual regression, run on throwaway databases with synthetic data, so a release is certified without touching customer records.
- Established automated permission verification across the product, checking 130+ protected routes against 20+ reviewed profiles and producing 2,000+ access decisions per run. Documented inherited gaps explicitly so existing permission issues could not silently become false release passes.
- Migrated the procurement suite from React Native Web to the back-office web application, moving ~1,100 files across web and API in under four weeks with AI-assisted development, then hardening the result through subsequent production work. Redesigned concurrency-sensitive workflows for multi-user office operation with no written specification to work from, and recorded every intentional architectural difference in a decision record.
- Established engineering practices for documentation, migrations and review, requiring workflow/screen/permission documentation and architecture decision records to ship with code, with production data migrations backed by dry-run runbooks and recorded results. Any behaviour in the system now traces back to a decision, a date and a reason.
- Reviewed over 500 pull requests across all product repositories, from both internal and external partner teams, increasingly of agent-generated code, as reviewer of record for all modules and the shared contracts, mostly in frontend web and app codebases.
- Handled 100+ customer-raised requests and escalations for three production customers, working directly with our implementers and the clients' operations, purchasing and finance staff. Those conversations, not a backlog, drove most product decisions in the domain.

Software Engineer, Nalagenetics

04/2021 - 08/2023 | Singapore (remote)

Personalised DNA testing for Southeast Asian populations, sold direct and through partner clinics and laboratories. The patient app is where people read their own genetic results and act on them, so clarity and privacy are the product. Fully hand-written from scratch, before coding assistants existed. Collaborated asynchronously with engineering, QA and product colleagues across Southeast Asia, working to Singapore hours.

- Migrated the Nala Personal Health Manager app from native Kotlin and Swift to React Native, clearing 20+ native defects and ending a split where patients on Android and iOS were seeing different behaviour from the same test result. No specification, only the live production app to work from.
- Worked on mobile UI architecture and API integration for the core clinical features, including the RxReady, NutriReady and MammoReady DNA reports and the FACT-ES and COVID-19 Likelihood Meter surveys, cutting post-launch bug reports by around a third.
- Delivered a complete user application single-handed inside a three-month scope, with no design support, planning and tracking the work personally.
- Closed 60% of the findings from a third-party vulnerability assessment and penetration test, and wrote the client-side encryption library that keeps patients' genetic data unreadable at rest.
- Rebuilt the application through a design revamp for roughly half the code complexity and a third better responsiveness, shipping both the patient and physician apps within six months while coordinating an outsourced engineering team from India.

Research Assistant and Lecturer Assistant, Universitas Indonesia

08/2017 - 12/2018 | Depok, Indonesia.

- Contributed to three research papers on complex networks, deterministic and stochastic modelling and optimal control.
- Taught the Ordinary Differential Equations class.

EDUCATION

Bachelor of Science, Mathematics - Universitas Indonesia, 08/2015 - 02/2019, GPA 3.35/4.00

Presenter, ICMAMU 2018 International Conference, Bangkok. Head of Public Relations, Mathematics Students Union.

LANGUAGES

Indonesian (native), English (professional working proficiency).

PUBLICATIONS

- Classification of the likelihood of Indonesian Facebook users in spreading hoaxes using Support Vector Machine (SVM). Journal of Physics: Conference Series, 2021. iopscience.iop.org/article/10.1088/1742-6596/1725/1/012019
- An Agent-Based Model of Contagion Effects in Affected Depression and Its Recovery Process. Journal of Physics: Conference Series, 2021. iopscience.iop.org/article/10.1088/1742-6596/1751/1/012007

CERTIFICATIONS

Amazon Web Services, 2021: Machine Learning (Technical), Data Analytics (Technical), Cloud Practitioner Essentials. WorldQuant University, 2020: Applied Data Science I and II.

AWARDS

- 3rd place, Most Outstanding Student, Faculty of Mathematics and Natural Sciences, Universitas Indonesia, 2018.
- 1st place, National Essay Competition, Statistika Ria IPB, 2017. *"The collaboration between Big Data, Internet of Things (IoT), and Machine Learning in classifying the occurrence of Dengue Fever for patients in the hospital"*.
- 2nd place, National Essay Contest, Mathematics Festival, Universitas Sriwijaya, 2017. *"Minimum solution approximation at a mathematical model of the number of active smokers using Newton-Raphson Algorithm to reduce deadly disease patients"*.
- 3rd place, National Paper Contest, Universitas Padjadjaran, 2017. *"Preventing the spread of Hoaxes on Facebook with Machine Learning Decision Tree method"*.