KADEK NANDANA TYO NAYOTAMA

Malang, Indonesia – nandanatyon@gmail.com – +6282266599960
linkedin.com/in/nandanatyo – github.com/nandanatyo – Male – 20 years old – www.nandanatyo.com

PORTFOLIO

SineasMov   Feb – May 2025
https://sineasmov.com/
Role: Backend Back-Office Engineer Intern
Duration: Feb – May 2025
Tech Stack: NestJS, ExpressJS, TypeScript, Microservices, Docker, CI/CD, AWS, Taiga.

Description:
SineasMov is a digital platform focused on distributing and promoting local films, with the mission of accelerating the growth of Indonesia's film industry in the digital age.

As a backend developer intern, I was responsible for developing and maintaining the platform's internal systems, including:
- Designing and implementing secure, scalable back-office and administration services using NestJS and ExpressJS
- Developing microservice-based architecture to separate and modularize core services for scalability and maintainability
- Implementing authentication and role-based access control for admin and content management interfaces
- Containerizing services with Docker and deploying to AWS environments with CI/CD pipelines
- Collaborating in a product team using Agile methodology (Taiga) and participating in sprint planning, code reviews, and testing
- Supporting content management workflows, film metadata handling, and administrative analytics tools

Key Contributions:
- Built a modular back-office system enabling content teams to manage film submissions, metadata, and publishing status
- Ensured backend reliability and scalability through microservices and containerized deployments
- Improved internal tooling performance and security, streamlining the film curation and approval process

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Sentra   Jan – Mar 2025
4th Place FindIT Hackathon Winner By UGM 2025
https://github.com/orgs/Sentra-Gedag-Gedig/repositories
Role: Fullstack Developer
Tech Stack: Golang, React Native, OpenCV, PostgreSQL, Google AI Studio, Python (AI models), YOLO, Docker, REST API, CI/CD, AWS, Google Cloud Run

Description:
Sentra is an inclusive mobile-based financial platform designed to empower blind and visually impaired users to manage their personal finances independently. The app provides accessible e-KYC, voice-assisted budgeting tools, and AI-powered money recognition, all optimized for screen reader compatibility and built to meet WCAG 2.1 accessibility standards.

As a fullstack developer, I was responsible for both backend and AI system development, including:
- Designing and deploying secure, scalable RESTful APIs for user authentication, financial tracking, and voice command processing
- Writing clean, modular, and maintainable backend code based on Clean Architecture principles
- Training, fine-tuning, and deploying real-time YOLO models for face recognition, QRIS recognition, and KTP recognition on Google Cloud Run
- Integrating multiple AI-based systems:
  - Face recognition for inclusive user authentication
  - QRIS recognition for assisting users in scanning nearby QR codes
  - KTP recognition for positioning guidance during e-KYC
  - Currency recognition using Python and Google Vision API
- Ensuring security and data privacy through encryption and secure API design
- Managing and optimizing the PostgreSQL database for performance and scalability
- Collaborating in an Agile Scrum team with designers and AI engineers, involving iterative usability testing with visually impaired users
- Deploying backend and model services using Docker and managing CI/CD pipelines on AWS for backend services and Google Cloud Run for model services

Key Features Delivered:
- Inclusive e-Wallet system with accessible e-KYC and audio-guided onboarding
- Voice-Based Budget Manager for hands-free income and expense tracking
- QRIS payment system with voice navigation for independent transactions
- AI-powered Money Detector for identifying the denomination and authenticity of cash

- Real-time AI-powered face, QRIS, and KTP recognition for accessible authentication and verification workflows

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Unikahidha   Nov – Des 2024
Role: Fullstack Web Developer
URL: https://unikahidha.ub.ac.id/

Duration:
Tech Stack: Laravel, Next.JS, Inertia.JS, Docker.

Description:
UNIKAHIDHA is one of the UKM at Brawijaya University that accommodates various activities of all Hindu students at Brawijaya University. The development of the UNIKAHIDHA website aims to facilitate external parties in getting to know the Unikahidha organization further such as work programs, cabinets, contacts and so on.

As a fullstack developer, I was responsible for:
- Developing the user interface for the Control Management System using Next.js and Inertia.js
- Building a RESTful API backend using Laravel to handle system logic, data flow, and content management
- Containerizing and deploying the application using Docker for consistent and scalable deployment
- Ensuring a smooth integration between frontend and backend systems for an optimal user experience

Key Contributions:
- Delivered a clean, responsive interface for admins to manage content such as events, cabinet structures, and announcements
- Implemented secure backend services to manage dynamic content and organizational data
- Successfully deployed the full website, enabling broader visibility and engagement for the organization

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Brawijaya Appreciate   Aug – Sep 2024
Backend Engineer
URL: Internal Project

Role: Backend Engineer

Description:
Brawijaya Appreciate is a university-wide event organized by the Ministry of Home Affairs at the Student Executive Body of Brawijaya University, recognizing outstanding students and organizations. The system was designed to support around 50,000 students in nominations, registrations, and voting.

As a backend engineer, I was responsible for designing and developing a large-scale backend system to support the event's lifecycle:
- Designing relational database schemas tailored for high-volume user and event data
- Developing ~90% of the backend logic including user management, event registration, and nomination processing using Go and SQLX
- Creating robust, scalable APIs to support high concurrency and traffic during peak nomination/voting periods
- Implementing efficient query structures and indexing strategies to optimize performance
- Ensuring ACID-compliant transactional integrity for registration and voting flows
- Securing endpoints through role-based access control and token-based authentication

Key Contributions:
- Successfully delivered a backend system capable of handling tens of thousands of concurrent users
- Optimized database operations to reduce latency during high-traffic periods
- Ensured data consistency and security throughout the event registration and voting process

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DevSkill Basic Computing Community   May - Jun 2024
Role: Backend Engineer
URL: Internal Project

Description:
- DevSkill is an internal platform developed for the Basic CGrafanag Community at Brawijaya University, aimed at fostering learning and collaboration among students interested in backend development, systems design, and distributed computing.
- As a backend engineer, I was responsible for building a distributed backend system supporting scalable community features, including:
- Designing and implementing microservice-based architecture with Go using Fiber and gRPC for efficient communication across services

- Integrating asynchronous communication patterns with Kafka and RabbitMQ for real-time event handling and inter-service messaging
- Utilizing Redis for caching and real-time session management
- Setting up observability pipelines using Grafana for monitoring system health, performance, and logs
- Writing clean, modular, and testable services in line with best practices for distributed systems
- Implementing secure API gateways and authentication layers across microservices

Key Contributions:
- Built a reliable and scalable backend foundation for the community website
- Streamlined event-driven architecture using Kafka and RabbitMQ for better decoupling and resilience
- Improved service observability and incident tracking with Grafana dashboards