

# NAUFAL HADI DARMAWAN

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## Education

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### UNIVERSITAS PENDIDIKAN INDONESIA (Expected Graduation: June 2026)

Software Engineering | GPA 3.81

**Relevant Coursework:** Programming 1 & 2: C++ & Java (OOP), Data Structures & Algorithms, Database Technology, Software Modeling and Design, Operating System, Web Development, Distributed Application Development, Project Management, Software Quality

## Skills & Interests

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**Software** : Python, FastAPI, Django, JavaScript, NodeJS, Express, Hapi, C#, ASP.NET, Alpine, React, HTMX, Tailwind, SQL, MongoDB, Neo4j, Git, Docker, SDLC, Amazon Web Services (AWS), Google Cloud Platform (GCP)

**Certifications** : Front-End Development (React) by Dicoding, Back-End Development (NodeJS & AWS) by Dicoding, Cloud & Gen AI on AWS by Dicoding, Asah - React & Backend with AI by Dicoding & Accenture, Full Stack Web Development with Django by Jose Salvatierra, Machine Learning by Stanford University & DeepLearning.AI, DeepLearning.AI Tensorflow Developer, Tensorflow: Data & Deployment by DeepLearning.AI, Applied Machine Learning by Dicoding, MLOps by Dicoding, Bangkit Academy 2024 led by Google, Tokopedia, Gojek, and Traveloka Machine Learning Path

## Work Experience

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### Software Engineer Intern – PT Kilang Pertamina Internasional

February 2025 – May 2025 | Hybrid

- Developed an AI-powered data entry automation system using Python & Retrieval-Augmented Generation (RAG) architecture with an LLM and LangChain to extract information from PDFs, significantly improving data logging efficiency.
- Designed and built a full-stack web application (PSPV Register) from the ground up using ASP.NET and SQL Server to manage and centralize the equipment deactivation registration process within the refinery.
- Executed the complete software development lifecycle, from requirements analysis, system architecture design, and feature implementation to testing, ensuring both applications met operational needs.

### Data Scientist Project-Based Intern – Home Credit Indonesia

February 2025 – March 2025 | Remote

- Executed an end-to-end data science workflow, including data preprocessing, feature engineering, feature selection (Mutual Information), and handling class imbalance with SMOTE to optimize model performance.
- Developed and evaluated credit scoring models using Scikit-Learn and various machine learning algorithms (Random Forest, XGBoost, LightGBM) to predict loan repayment likelihood, achieving up to 96% accuracy and F1-score with the final Random Forest model.
- Conducted Exploratory Data Analysis (EDA) to identify key factors influencing credit risk and provided strategic business recommendations to enhance the loan approval process.

## Projects

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### Predictive Maintenance Copilot: Use Case by Accenture

- Architected and led the development of a predictive maintenance platform for the manufacturing sector, orchestrating a microservices (simulator, backend [Hapi & NodeJS], ML inference service, agent service) ecosystem to monitor industrial machine health.
- Implemented real-time event streaming via Socket.IO to deliver critical machine failure alerts and synchronized updates across the dashboard.

- Engineered an Agentic AI service using FastAPI, LangChain, and LangGraph to analyze telemetry data, providing engineers with real-time health summaries, root cause analysis, and actionable maintenance recommendations.
- Optimized database performance for time-series workloads by implementing TimescaleDB, enabling efficient storage and retrieval of massive machine sensor logs.

#### **EcoTracker: A MERN-stack Application for Tracking Personal Carbon Footprints**

- Architected a robust RESTful API with Node.js and Express, featuring comprehensive OpenAPI documentation for clear frontend integration.
- Optimized application performance by integrating Redis for efficient caching strategies and Upstash rate limiting to prevent abuse.
- Secured user data through a JWT-based authentication system with role-based access control (RBAC) and rigorous input validation using Joi.
- Managed NoSQL data modeling with MongoDB, designing schemas for user profiles, activity logs, and historical tracking data to support scalable growth.

#### **Persona Nexus: AI-Powered Community Platform**

- Architected and developed the full-stack web application from scratch using Django, HTMX, and Alpine.js to create a dynamic and interactive community platform.
- Implemented comprehensive social features, including an OAuth authentication system (Google/Discord social login), dynamic content feeds, real-time voting and notifications, and a private direct messaging system.
- Integrated AI functionality for an AI Writing Assistant and automated content moderation, which proactively flags inappropriate text for review.
- Built a custom admin dashboard with complete moderation tools, content management (CRUD), and analytics visualization using Chart.js to monitor user growth and content activity.
- Managed the entire deployment and DevOps lifecycle, including server configuration on AWS EC2, containerization with Docker, and implementing a CI/CD pipeline using GitHub Actions.

#### **AcneScan: Acne Detection App**

- Designed and trained a CNN image classification model (TensorFlow, EfficientNetB0) to detect 5 types of acne, achieving a 98% F1-score on the test set.
- Built a RESTful API with Flask and deployed it on Google Cloud Platform (Cloud Run) to serve machine learning inferences scalably.
- Collaborated with Mobile Development and Cloud Computing teams for end-to-end integration, including converting the final artifact to TensorFlow Lite for the Android application.