

EDUCATION

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| Semarang, Indonesia | Universitas Dian Nuswantoro | Jun 2020 - Feb 2024 |
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- **Degree:** Bachelor of Computer Science (GPA: 3.7) | Jun 2020 - Feb 2024
 - **Programming Coursework:** Python, Golang, Javascript, Data Structures, Software Engineering, Algorithms and Complexity, Machine Learning, MVT, MVC, Mobile Programming, Flutter, Backend Dev.
 - **CS Coursework:** Digital Logic, Computer Architecture, Embedded System, Computer Vision, NLP, Embedded Systems, Artificial Intelligence, Operating System.

EMPLOYMENT

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| AI Engineer | Pt Bagus Harapan Tritunggal | Aug 2025 - Present |
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- Developed an AI Policy Simulator for the Ministry of Law and Human Rights (Kemenkumham) to model and analyze the potential impacts of new legal policies within the AHU Online ecosystem.
 - Designed and deployed a Decision Support System utilizing Agentic AI to automate complex workflows and provide actionable, data-driven insights.
 - Spearheaded the development of a high-performance Face Recognition Engine, integrating InsightFace, Ultralytics, MediaPipe, and Django. Implemented advanced anti-spoofing and precise landmark detection to ensure highly secure biometric verification.
 - Architected and trained a custom Fish Recognition System for KNMP, overseeing the end-to-end machine learning pipeline from data processing to system deployment.
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| Backend Engineer & Tech Lead | Pt Orbit Tech Solution | Jul 2023 - Aug 2025 |
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- Led the architecture and development of complex backend systems for AI and Web3 applications, including a Real-World Asset (RWA) tokenization platform and a hyper-realistic AI golf simulator.
 - Engineered predictive AI models using Physics-Informed Neural Networks (PINNs) and ANNs to accurately simulate physics and generate data-driven recommendations for fintech applications.
 - Designed and implemented scalable backend solutions for smart farming (IoT integration) and multi-partner e-commerce platforms.
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| Freelance | Jan 2021 - Jul 2023 |
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- Machine Learning Engineering
 - freelancer as a full-stack developer

SOFTWARE PROJECTS

- Enterprise Face Recognition API**
- Designed and deployed a scalable face recognition system. Engineered the core pipeline using state-of-the-art vision models to handle accurate landmark detection and liveness analysis, seamlessly served via a robust backend.
 - **Utilized:** Python, Django, InsightFace, Ultralytics, MediaPipe, OpenCV.
- AI Policy Simulator**
- Developed a simulation tool leveraging Agentic AI to help government officials simulate, analyze, and predict the outcomes of implementing new legal policies before they are officially enacted.
 - **Utilized:** Python, LLMs, Agentic Frameworks, Langchain, Ollama, Mcp, Django, Typescript.
- Product Expiration Reminder**
- Application for expired product management combined with deep learning with Inception ResNet V2. Can recognize the expiration date of the product packaging and can identify the level of spoilage of a product without packaging. Equipped with a barcode scan to get detailed product information.

- Utilized: Jupyter Notebook, Python, Pandas, NumPy, Matplotlib, Tensorflow, Djang.

Karpous - Real-World Asset (RWA) Platform

- Led the end-to-end backend architecture for a pioneering platform for investing in and managing tokenized real-world assets (RWAs).
- Designed and developed a complex hybrid system, tackling challenges in both centralized (Django) and decentralized (Web3) environments to ensure secure and scalable crypto transactions.
- Utilized: Django, Python, PostgreSQL, Web3, gRPC, Redis, MetaMask, React.

Fairway Golf Engine - AI Simulation

- Spearheaded the architecture of a hyper-realistic golf simulator, overseeing the entire system from code infrastructure to ML model deployment.
- Engineered the core engine using a sophisticated physics engine combined with Physics-Informed Neural Networks (PINNs) and ANNs to accurately predict ball trajectory and resting position.
- Utilized: Python, PyTorch, Django, PostGIS, PINNs, ANNs, REST APIs.

OnFarm - Smart Farming IoT Platform

- Designed the core backend architecture for a smart farming application connecting investors and farmers through real-time, verifiable data.
- Integrated various IoT devices to stream and process live field data, enhancing transparency and operational efficiency in the agricultural investment process.
- Utilized: Django, Python, gRPC, MPTT, IoT, Grafana, PostgreSQL, REST APIs.

Quantitative Trading Bot

- Developed an AI-driven system to provide actionable stock investment recommendations by analyzing market data and identifying predictive patterns.
- Managed the full project lifecycle from data processing and model development (Scikit-learn, Tensorflow) to deploying a REST API for delivering insights.
- Utilized: Python, Pandas, Scikit-learn, Tensorflow, Backtesting, REST APIs.

ADDITIONAL EXPERIENCE AND AWARDS

- **Data Analyst**: Awarded a certificate as a data analyst from DQLab and Xeratic.
- **AI Mastery**: Orbit Future Academy

SKILLS

- **Software**: (*proficient*): Python, Go, Javascript, Tensorflow, OpenCV, Keras, Apache Kafka, Redis, PyTorch, Embedding System, LLM, Flutter, Flask, Django, PostgreSQL, Unix, Git (*familiar*): Java, SQL, Dart, Jupyter, AWS, Flutter, HTML/CSS, Excel.