# MUHAMAD JAFAR RAHADIAN

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## PROFILE

Informatics Engineering graduate (GPA 3.82/4.00) specializing in Machine Learning, AI-driven solutions, and data analytics. Proven expertise in time-series forecasting, demonstrated through an undergraduate thesis on LSTM models for cryptocurrency prediction. Highly proficient in Python (TensorFlow, PyTorch, Scikit-learn, Pandas) , SQL databases (MySQL, PostgreSQL, SQL Server), and Docker. Experienced in developing data-driven applications and APIs using FastAPI and Next.js. Delivered impactful AI and automation projects at PT. Astra Visteon Indonesia, significantly enhancing operational efficiency and reducing production failure risks.

## EDUCATION

**Universitas Muhammadiyah Prof. Dr. Hamka** – East Jakarta, Indonesia — September 2020 – December 2024
*Bachelor Degree in Informatics Engineering, GPA: 3.82/4.00*

- Undergraduate thesis title: "Implementation of the Long Short-Term Memory Algorithm to Predict the Price of Litecoin Cryptocurrency" (Machine Learning Topic), **achieving 91% improvement in predictive accuracy.** March 2024 to November 2024.

## WORK EXPERIENCE

**PT. Astra Visteon Indonesia –** IT & Maintenance Department — 5 June 2025 - Now
Internship IT as a Full-stack Web Developer, AI Engineer, & Machine Learning Engineer.

- Developed a monitoring solution for Atlas Copco compressors using **machine learning-driven forecasting and anomaly detection**, reducing production failure risk by 5-15%.
- Engineered an **AI-powered chatbot system** for document search management, accelerating information retrieval and resume creation by 50%.
- Implemented a data management dashboard to monitor real-time PC resource usage (CPU, GPU, RAM) using Prometheus and Grafana, reducing application crash risk by 25%.
- Designed and deployed an **automated database backup system** to ensure data integrity, successfully mitigating data loss risk due to human error by 80%.
- Built an automated RFQ email system to streamline vendor communication (4th Place QCC Winner) and a web-based workflow system for internal claims (1st Place QCC Winner), improving process automation and efficiency by 40-50%.

## PROJECT EXPERIENCE

**Stock Price Prediction Using Neural Network Algorithms –** Personal Project — May 2025
Link Project
*Data Science – Application of 3 Neural Network Algorithms for Stock Price Prediction*

- Applied **LSTM**, **GRU**, and **1D CNN** on **8,539 IDX stock data samples**, with **LSTM** yielding **best performance** at **1.04% MAPE** and **0.96 $R^2$**, followed by the **GRU model** and **1D CNN model (MAPE 1.09%, $R^2$ 0.95)**. Demonstrating its ability to minimize prediction deviation, making it suitable for volatile markets like the IDX Composite.

## SKILLS & LANGUAGE

- **Language** : English (Conversational) | Indonesian (Native)
- **Machine Learning & AI** : Python | Tensorflow | PyTorch | Scikit-learn | Pandas | NumPy | Jupyter Notebook | Google Colab
- **Data Engineering & OPS** : SQL (MySQL, PostgreSQL, SQL Server) | Docker | Prometheus | Grafana | Windows Exporter | Telegraf | Git | Redis | Celery Worker | NSSM
- **Web Development** : PHP | JavaScript | Typescript | Laravel | Fast API | Next.js | React.js | Vercel
- **Tools** : Microsoft Word | Microsoft Excel | Google Sheets | Microsoft Power BI

## CERTIFICATION

- **TOEFL ITP** : Link
- **Dicoding Academy** : AI Basic | Python | Google Sheet | Machine Learning Basic | Machine Learning Intermediate | Machine Learning Expert
- **Microsoft Office Excel** : Link