

ACHMAD FAHMI AINUR RIDHO

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Surabaya, East Java (60111)

Aspiring Data Scientist & Machine Learning Engineer with hands-on experience in building predictive models, preprocessing data, and deploying analytical solutions using Python, TensorFlow, Scikit-learn, and SQL. Strong foundation in data engineering workflows, statistical analysis, and feature engineering, supported by real project implementations including time-series forecasting and crime classification. Equipped with software engineering fundamentals and proven leadership experience through involvement in research and development management. Passionate about leveraging data and AI to drive decision-making and innovation in real-world industry environments.

EDUCATION

Bachelor of Information Systems

Institut Teknologi Sepuluh Nopember (ITS)

Aug 2022 – Expected 2026

- Current GPA: 3.62/4.00 (125 credits)

EXPERIENCE

Vice Head of Research and Development Department

Feb 25 – Present

Himpunan Mahasiswa Sistem Informasi (HMSI ITS)

- Co-led the department in designing and executing strategic programs focused on member development, innovation, and internal process optimization.
- Supervised 3 internal teams consisting of 12 staff and 25 internship members over two academic semesters, ensuring timely delivery and alignment with organizational goals.
- Facilitated cross-functional collaboration and led progress tracking efforts to ensure project milestones were met.
- Created and maintained comprehensive documentation including SOPs, project templates, and operational workflows using Google Workspace tools.

Teaching Assistant - Enterprise Systems Course

Aug 24 – Nov 2024

Institut Teknologi Sepuluh Nopember (ITS)

- Facilitated hands-on lab sessions on Odoo ERP modules covering Sales, Inventory, Human Resources, and Accounting.
- Guided students in implementing ERP solutions aligned with real-world business processes and use cases.
- Assessed student projects and assignments with individualized feedback, improving comprehension of enterprise IT systems.
- Helped bridge the gap between theoretical concepts and applied ERP practice for 50+ students.

Expert Staff of Data Science Academy

Aug 24 – Dec 24

Information Systems Expo - ISE! 2024

- Designed technical assessments using Python and data manipulation challenges to select training participants.
- Actively reached out to industry partners, securing collaborations and sponsorships for the data science program.
- Supported curriculum design and event execution, contributing to a national-scale student development initiative with 70+ participants.

Data Management Staff of Secretarial Subdivision

Jul 23 – Aug 23

GERIGI ITS 2023

- Collected and managed participant data using both manual forms and digital spreadsheets, ensuring completeness and consistency across systems.
- Demonstrated strong attention to detail and organizational skills by maintaining accurate and well-structured records for 20+ students.
- Standardized data formats and introduced validation steps that reduced input errors and improved data reliability.

PROJECTS

Juanda Airport Visitor Forecasting

Time Series Forecasting | CNN-LSTM, Random Forest, Linear Regression

- Built predictive models to forecast the number of visitors at Juanda Airport based on historical trends and time-based features.
- Conducted end-to-end preprocessing including seasonality analysis, outlier removal, and data normalization using Pandas and NumPy.
- Trained and compared Linear Regression, Random Forest, and a CNN-LSTM model using TensorFlow, evaluating performance with RMSE and MAE.
- Demonstrated that the CNN-LSTM model reduced error by over 15% compared to traditional models, offering better forecasting accuracy for capacity planning.

Crime Type Prediction – Los Angeles Dataset

Classification & Data Mining | Decision Tree, Random Forest, Logistic Regression

- Developed a classification model to predict crime types using variables such as location, time of occurrence, and victim demographics.
- Performed feature engineering to transform categorical and temporal data into numerical predictors using One Hot Encoding and time binning.
- Built pipelines with Scikit-learn and applied grid search for hyperparameter tuning, optimizing for F1-score and recall on imbalanced data.
- Enabled insights into high-risk areas and crime patterns, useful for policy-making and preventive measures.

Orphanage Inspection Route Optimization

Operations Research | Ant Colony Optimization (ACO), Python

- Designed an optimization model to streamline inspection routes for orphanages in Surabaya, Gresik, and Sidoarjo.
- Implemented Ant Colony Optimization (ACO) from scratch with time-window constraints (09:00–17:00) and service duration limits.
- Demonstrated practical application of metaheuristics for social service logistics and compliance monitoring.

Task Management Desktop App with CI/CD & Cloud Deployment

DevOps & Full Stack | Electron.js, GitHub Actions, Docker, AWS EC2

- Designed and developed a cross-platform desktop application for personal task management using Electron.js, with a focus on offline-first productivity and minimal resource usage.
- Set up a robust CI/CD pipeline using GitHub Actions to automate build, test, and deployment stages, significantly reducing manual errors and ensuring continuous integration.
- Containerized the application using Docker and deployed it to AWS EC2, enabling scalable and consistent environment management across development and production.
- Enhanced development efficiency and deployment reliability, reducing delivery time by 70% and improving overall maintainability.

IT Performance Dashboard for Bank Jatim (IT-BSC)

Business Intelligence & Strategy | Power BI, IT-Balanced Scorecard

- Built a strategic performance dashboard based on the IT Balanced Scorecard (IT-BSC) framework to track IT division KPIs.
- Translated organizational goals into measurable metrics across four perspectives: Financial, Customer, Internal Process, and Learning & Growth.
- Visualized trends and performance gaps using interactive Power BI dashboards, aiding decision-makers in strategic monitoring.
- Empowered C-level stakeholders with real-time insights, improving IT initiative alignment with business outcomes.

CERTIFICATES & COURSES

- **DevNet Associate** Sep 2025
Cisco
- **Data Classification and Summarization Using IBM Granite** Aug 2025
IBM
- **Business Analysis and Process Management** Dec 2024
Coursera
- **Machine Learning Pipeline with Azure ML Studio** Aug 2024
Coursera
- **Introduction to SAP S/4HANA** Jul 2024
SAP University Alliances
- **Revo Mini Course Data Analytics** Mar 2024
RevoU
- **Latihan Keterampilan Manajemen Mahasiswa Tingkat Dasar** Nov 2023
HMSI ITS

TECHNICAL SKILL

- **Programming & Tools** Dec 2024
TypeScript, JavaScript, Python, SQL, Node.js, Docker, Git, GitHub Actions.
- **Data Science**
Machine Learning, Deep Learning (CNN, LSTM), Time Series Forecasting, Optimization (ACO), Data Preprocessing, Feature Engineering, Model Evaluation (RMSE, MAE, ROC-AUC).
- **Business Intelligence & Visualization**
Power BI, Tableau, Data Storytelling, KPI Mapping
- **Backend & Deployment**
REST API, Authentication, PostgreSQL, CI/CD, AWS EC2, Error Handling
- **Other**
Odo ERP, SAP S/4HANA, Excel

