Fernando Gunawan

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SUMMARY

Computer Science student specializing in Intelligent Systems. Experienced as a Software Laboratory Assistant and Academic Mentor, guiding over 100 students in programming, web development, and database systems. Skilled in Python, SQL, and Java with practical experience making project in machine learning using Pandas, NumPy, Scikit-Learn, and Matplotlib. Passionate about pursuing a career in machine learning and data science, focusing on building intelligent and scalable solutions.

EXPERIENCE

Software Laboratory Assistant   Aug 2025 – Present
Lab Instructor

- Guided and supported over 100+ students in lab courses such as Object-Oriented Programming (Java), Web Development, and Data Warehouse (SQL), making complex concepts easier to understand.
- Collaborated in a 2 person team to deliver lab sessions, answer questions, and help students apply theory in practice.
- Created case studies and exercises that were later used as part of lab exams and class assessments.
- Reviewed and graded student projects, assignments, and quizzes, providing fair evaluation and constructive feedback.
- Joined regular training sessions to continuously improve both technical and teaching skills.

Computer Science Academic Mentoring   Sep 2025 – Present
Peer Mentor

- Worked with students in one on one mentoring sessions, especially those repeating courses or struggling with low grades.
- Helped them review key concepts and break down difficult topics in learning.
- Created simple practice exercises to match each student's needs, making study sessions more effective.
- Received a scholarship covering 16 academic credits as recognition for mentoring contributions.

ORGANIZATION EXPERIENCES

UREEKA Web Development   Feb 2025 – Present
Member

- Worked with a team to build web applications, often combining them with AI features Machine Learning model to create solutions based on problem.
- Took part in brainstorming and coding, learning how to turn ideas into real working websites.
- Collaborated closely with other members, improving teamwork and problem solving skills.

PROJECTS

Lithium Ion Battery SoH Detection | LINK   March 2025 – May 2025

- Trained Random Forest, XGBoost, and SVR models to estimate the SoH of lithium ion batteries using NASA Battery Dataset.
- Implemented extensive data preprocessing, including CSV merging, feature engineering and down sampling for computational efficiency.
- Performed EDA and statistical evaluation using MAE, RMSE, and R^2 metrics.
- Optimized model performance through hyperparameter tuning and achieved R^2 = 0.92.

Air Quality Classification in Jakarta | LINK   April 2025 – May 2025

- Performed data cleaning, feature engineering, and class balancing using SMOTE to handle imbalanced air quality categories.
- Conducted cross validation and hyperparameter tuning to optimize multiple models, achieving the best performance with 98.9% accuracy using LightGBM.
- Implemented EDA to identify pollutant patterns and seasonal trends affecting AQI levels.
- Prepared the trained model for deployment integration into a web based weather platform.

Animal Detection | LINK   Okt 2024 – Des 2024

- Developed a custom YOLOv5 based deep learning model for automated detection and classification of animal species across images, videos, and live webcam streams.
- Train and fine tuned the model on a animal dataset, and optimizing detection accuracy across 10+ species.
- Use Python, PyTorch, YOLOv5, OpenCV, Flask, and HTML/CSS for end to end AI development.

EDUCATION

BINUS University   **Sep 2023 – Present**

Computer Science

- GPA: 3.98 / 4.00.
- Currently Specializing in Intelligent Systems Streaming.
- Co-authored a research paper accepted at the GECOST International Conference 2025, presenting work on Comparative Analysis of Machine Learning Models for Estimating Li-ion Batteries State of Health.
- Relevant course: Machine Learning, Deep Learning, Computer Vision, NLP, Basic Statistic, Linear Algebra, AI.

CERTIFICATES

- Belajar Dasar Data Science **| Dicoding |** [CERTIFICATE](#)
- Code Generation and Optimization Using IBM Granite **| IBM |** [CERTIFICATE](#)
- Build a Data Warehouse with BigQuery Skill Badge **| Goggle Cloud |** [CERTIFICATE](#)
- Prepare Data for ML APIs on Google Cloud Skill Badge **| Goggle Cloud |** [CERTIFICATE](#)

SKILL

- **Language**: Python, SQL, Java, React, C
- **Frameworks**: Pandas, Numpy, Scikit-Learn, Matplotlib
- **Platforms**: Visual Studio Code, Goggle Collab, Visual Studio 2022, Eclipse, SSMS
- **Soft Skills:** Communication, Technical, Project Managment