MUHAMMAD RAFLI FAUZI

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Bachelor's degree in Electrical Engineering from Sultan Ageng Tirtayasa University with a GPA of 3.76/4.00, majoring in Computer and Telecommunications, with a focus on developing competencies in Data, Machine Learning, and Artificial Intelligence. Experienced in developing Machine Learning models through NLP and Computer Vision projects. Completed the Bangkit Academy 2024 Batch 2 program in the Machine Learning track with a "Distinction" designation and contributed to a capstone project that was ranked among the Top 50 Best Capstone Projects. Supported by experience as a Computer Lab Assistant and Lab Secretary, which developed analytical, problem-solving, communication, management, and collaboration skills in both academic and technical environments.

EDUCATION

Sultan Ageng Tirtayasa University — **Cilegon, Banten**
S1, *Electrical Engineering* | GPA: 3.76/4.00 — August 2022 - June 2026

- Focused on developing competencies in the fields of programming, computing, machine learning, artificial intelligence, and data processing.
- Completed Bangkit Academy 2024 Batch 2 in the Machine Learning Track with a "Distinction" designation and a final grade of 94.70/100 through the MBKM Certified Independent Study program.
- Completed a thesis on the classification of tea leaf diseases using a combination of VGG16, LBP, GLCM, and HSV feature extraction with the Support Vector Machine (SVM) algorithm.
- Served as a Computer Lab Assistant and held the position of Secretary of the Electrical Engineering Lab, supporting the lab's operations and academic activities.

Vocational High School 4 Jakarta — **DKI Jakarta**
SMK, *Mechatronics Engineering* | Score: 87.92/100.00 — June 2018 - June 2022

- Graduated as the second-highest-ranking student in the Mechatronics Engineering program, Class of 2018.
- Served as Vice Class President of the Mechatronics Engineering Class of 2018.

WORK EXPERIENCES

Electrical Engineering Laboratory, Sultan Ageng Tirtayasa University — **Cilegon, Banten**
Laboratory Secretary — February 2025 - February 2026

- Coordinate laboratory administration and operations, including scheduling lab sessions, ensuring equipment readiness, and managing facility use to support academic activities.
- Supervise, guide, and assist students during lab sessions.
- Support the assessment and evaluation of student laboratory performance based on established rubrics and evaluation frameworks.
- Collaborate with the Laboratory Director, the Program Chair, course instructors, and technicians in developing laboratory modules, grading systems, and laboratory operating procedures.
- Manage laboratory operational needs, including scheduling, equipment readiness, and space utilization to support the smooth running of academic activities.

Electrical Engineering Laboratory, Sultan Ageng Tirtayasa University — **Cilegon, Banten**
Computer Laboratory Assistant — September 2023 - February 2026

- Assisting students in numerical computation lab sessions using Python via Google Colab and digital signal processing using MATLAB.
- Preparing lab materials, computational simulations, and technical documentation to support practice-based learning.

- Assisting with basic hardware and software troubleshooting during lab sessions.
- Developing simple automation scripts and interactive learning materials to support experiments and lab activities.
- Collaborating with the lab assistant team to ensure that lab sessions are conducted consistently, effectively, and in accordance with procedures.

INTERNSHIP EXPERIENCES

PT. Akebono Brake Astra Indonesia **DKI Jakarta**
Electrical Support Intern June 2021 - November 2021

- Assist with the repair and optimization of electrical systems to ensure smooth machine operations.
- Participate in the assembly and installation of electrical and electronic components, including control panels and machine wiring.
- Gain hands-on experience with industrial automation components such as PLCs, inverters, relays, and contactors.
- Assist with basic troubleshooting and programming of Mitsubishi PLCs using GX Developer/GX Works under the guidance of a mentor.

CV. Citra Reka Teknologi **Bekasi, Jawa Barat**
Mechanical Support Intern June 2019 - October 2019

- Support the fabrication process for CNC Batik Machine components.
- Assist with the assembly and installation of mechanical and electronic components to ensure the compatibility and proper functioning of the CNC Batik Machine system.
- Collaborate with technicians and engineers in a small-scale production environment.
- Support the preparation and packaging of CNC Batik Machine components for shipment.

COURSE

Machine Learning Path **DKI Jakarta, Online**
Bangkit Academy 2024 Batch 2 September 2024 - January 2025

- Completed the Machine Learning Path through the Certified Independent Study Program (MSIB) with a grade of “Distinction” and a final score of 94.70/100.
- Developed and evaluated machine learning models using Python, NumPy, Pandas, TensorFlow, and Keras, covering supervised learning, unsupervised learning, and deep learning.
- Studied and applied data preprocessing techniques, model evaluation, error analysis, and the basic concepts of ML system design.
- Contributed as a member of the Machine Learning team to the development of EsCore, an NLP and LSTM based automated essay scoring system, which was named one of the Top 50 Best Capstone Projects in Bangkit Academy’s 2024 Batch 2.

PROJECTS

The following are projects I have worked on, either individually or as part of a team:

Disease Classification System for Tea Leaves Based on Machine Learning Models with VGG16 Architecture and Feature Descriptor - Thesis

- Developing an image classification system for healthy and diseased tea leaves using a combination of deep learning and handcrafted feature extraction.
- Extracting image features using VGG16 and combining them with texture and color features from LBP, GLCM, and HSV for classification using Support Vector Machines (SVM).
- Evaluating through classification reports, confusion matrices, and testing on internal and external data.
- Achieved 95% accuracy across all feature combinations in internal testing, with the best results being 76% on original external images (VGG16 + GLCM + SVM) and 80% on externally sourced images with image enhancement (VGG16 + HSV + SVM).

EsCore (Automated Essay Scoring Based on NLP) - Capstone Project Bangkit Academy 2024 Batch 2

- Developed an automated essay scoring system based on Natural Language Processing (NLP) to support the automatic and consistent grading of essays.
- Contributed as part of the Machine Learning team to the development of an LSTM-based model using a dataset of essay texts with assigned grades.
- Contributed to model optimization through hyperparameter tuning, regularization, and the use of callback early stopping during the training process.
- Evaluated model performance using Quadratic Weighted Kappa (QWK) and achieved a score of 0.72, indicating fairly good results.
- Contributed to a team project that was selected as one of the Top 50 Best Capstone Projects in Bangkit Academy's 2024 Batch 2.

CERTIFICATIONS

Certificate of Completion Bangkit Academy 2024 Batch 2 specializing in Machine Learning Path with Distinction, Bangkit Academy, No: BA24/DIST/XXIV-OI/M318B4KY3003, 10 Jan 2025.

Certificate of Achievement top 50 teams at Bangkit Academy 2024 Batch 2 Product Track Capstone Project, Bangkit Academy, No: BA24/PROD/XXV-01/M318B4KY3003, 13 Jan 2025.

Machine Learning Specialization, DeepLearning.AI - Coursera, No: VXONP335CFCR, 17 Okt 2024.

DeepLearning.AI TensorFlow Developer Professional Certificate, DeepLearning.AI - Coursera, No: A6BRF4JQIWLL, 31 Okt 2024.

Natural Language Processing Specialization, DeepLearning.AI - Coursera, No: QSVLPEXD6NDO, 18 Jan 2025.

Advanced Computer Vision with TensorFlow, DeepLearning.AI - Coursera, No: TEBWKIK8KIUJ, 25 Nov 2024.

Linear Algebra for Machine Learning and Data Science, DeepLearning.AI - Coursera, No: X650U8HT5RDR, 06 Okt 2024.

Learn Data Analysis with Python, Dicoding Academy, No: KEXLYGWGMZG2, 02 Okt 2024.

Certificate of Electrical Engineering Laboratory Secretary for the Years 2025 - 2026, Electrical Engineering Laboratory, Sultan Ageng Tirtayasa University, No: 01/004/LAB.PSTE/II/2026, 06 Feb 2026.

Certificate of Computer Laboratory Assistant for Electrical Engineering for the Years 2023 - 2026, Electrical Engineering Laboratory, Sultan Ageng Tirtayasa University, No: 02/004/LAB.PSTE/II/2026, 06 Feb 2026.

ORGANIZATIONS

Head of the Machine Learning Division — **Cilegon, Banten**
ICoNIc Laboratory, Sultan Ageng Tirtayasa University — August 2023 - December 2023

- Lead the Machine Learning Division, composed of students, within an academic research laboratory setting.
- Develop an internal learning curriculum and facilitate technical discussions on the fundamental concepts and applications of machine learning.
- Coordinate project discussions, member skill development, and cross-divisional collaboration to support research laboratory activities.
- Managing the division's operational activities and collaborating with other divisions to support research laboratory activities.

Member — **Cilegon, Banten**
Google Developer Student Club, Sultan Ageng Tirtayasa University — September 2022 - December 2022

- Participate in a series of activities and learning sessions organized by the Google Developer Student Club at Sultan Ageng Tirtayasa University.
- Learn about various topics related to technology and software development through workshops and sharing sessions.

- Practice tutorials and hands-on activities to strengthen technical understanding.
- Interact and discuss with community members in a collaborative technology learning environment.

Head of the Scrabble Division **DKI Jakarta**
English Club, Vocational High School 4 Jakarta June 2019 - June 2020

- Led and managed the operational activities of the Scrabble Division within the English Club extracurricular program at Vocational High School 4 Jakarta.
- Developed and coordinated the activity schedule and training programs for the Scrabble Division.
- Oversaw the division's activities and collaborated with the English Club executive board.
- Actively participated in English Club activities as part of developing communication skills and teamwork.

SKILLS

Soft Skills	Team Management, Communication Skills, Teamwork, Problem Solving, Leadership.
Hard Skills	**Programming & Data:** Python, NumPy, Pandas, SQL.
	Machine Learning & Deep Learning: Supervised & Unsupervised Learning, NLP, Computer Vision, Feature Engineering, Model Evaluation.
	Models & Frameworks: LSTM, VGG16, SVM, TensorFlow, Keras.
Software	Google Colaboratoy, Visual Studio Code, GitHub, Microsoft Office, Google Office.

LANGUAGE

Indonesian
Native

English
Intermediate (TOEFL EPT Score: 450)