Andi Hisyam Helmi Faalih Fakhruddin

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Final-year Data Science student with hands-on experience in data science, machine learning, data automation, and analytical reporting. Experienced in building Python-based automation systems, processing structured and unstructured data, developing machine learning models, and generating actionable insights from healthcare, sales, financial, and social media data. Skilled in Python, pandas, NumPy, scikit-learn, PyTorch, TensorFlow, Streamlit, Flask API, SQL, web scraping, and data visualization. Has practical experience in healthcare process automation, sentiment analysis, stock return prediction, computer vision, and sales analytics. Strong academic background with a GPA of 3.86 and internship-ready for full-time Data Scientist roles.

Education

Telkom University Purwokerto 2022 – Present

Bachelor of Data Science – Faculty of Informatics

GPA: **3.86 / 4.00**

(Expected Graduation: 2026)

Profesional Experience

Python Automation Intern

RSUD Dr. (H.C.) Ir. Soekarno Bangka Belitung **June 2025 – August 2025**

- Developed a Python-based automation system integrated with Streamlit to support DPJP recording and healthcare administrative data processing.
- Processed and integrated data from PDF files, Excel files, and SIMRS using Python libraries such as pandas, NumPy, openpyxl, Streamlit, and SOAP-based data retrieval.
- Automated the previously manual process of checking patient medical record numbers, admission dates, emergency unit visits, surgery records, and related clinical-administrative information from SIMRS.
- Reduced the data retrieval process from approximately three months of manual checking to one day of automated extraction, followed by one week of manual validation by hospital staff.
- Implemented automated validation logic and fallback handling for missing, incomplete, or unavailable SIMRS data to improve data reliability before operational use.
- Generated structured Excel outputs used by the DPJP recording unit for further verification and operational decision-making.
- Collaborated with healthcare administrative stakeholders and cross-functional hospital units to align the automation workflow with real operational needs.

Private Tutor - Mathematics

Freelance **January 2024 – Present**

- Designed structured learning programs focused on analytical thinking, pattern recognition, and problem solving.
- Evaluated student performance trends and adjusted learning strategies based on observed progress.

Assistant Lecturer

Telkom University Purwokerto

Data Structures with C++ **September 2025 – January 2026**

- Supported C++-based Data Structure laboratory sessions for undergraduate students.
- Assisted students in implementing pointers, arrays, stacks, queues, linked lists, and graphs.
- Provided hands-on guidance in debugging, algorithm logic, and problem-solving during practical sessions.
- Helped lecturers maintain structured, interactive, and effective laboratory learning activities.

Statistic Methods II **February 2024 – June 2024**

- Assisted 40+ students in understanding descriptive and inferential statistics, including hypothesis testing, regression, statistical interpretation, and applied decision-making using SPSS.
- Guided students in interpreting statistical outputs and preparing structured analytical reports based on quantitative results.

Statistic Methods I **September 2023 – January 2024**

- Taught R programming for data cleaning, data visualization, regression analysis, and statistical testing.
- Supported students in transforming raw datasets into analytical outputs and communicating findings through structured reports.

Leadership & Organization Experience

Head of Research and Innovation Division

Telkom University Purwokerto

Himpunan Mahasiswa Sains Data **August 2024 – January 2025**

Official student association of the Data Science undergraduate program, focusing on academic support, research, and student development.

- Coordinated academic and research initiatives involving data analysis, reporting, and performance monitoring.
- Oversaw execution of programs using structured planning, progress tracking, and outcome evaluation.
- Led Data Slayer 2.0 Machine Learning Competition (250+ teams), managing evaluation metrics, reporting timelines, and stakeholder coordination.

Machine Learning Division Lead (Capstone Project)

Bangkit Academy led by Google, Tokopedia, Gojek & Traveloka **September 2024 – January 2025**

- Collaborated with mobile and cloud teams to align analytical outputs with product and business requirements.
- Translated project objectives into structured analytics workflows and monitored milestone delivery.

Selected Projects

Healthcare Process Automation (Python)

RSUD Dr. (H.C.) Ir. Soekarno Bangka Belitung **June 2025- August 2025**

This project addressed inefficiencies in the existing manual DPJP determination and BPJS claim validation processes by introducing an automated and standardized workflow to improve efficiency, accuracy, and compliance.

- Built a Python and Streamlit-based automation system to support DPJP determination and healthcare administrative data validation.
- Integrated PDF, Excel, and SIMRS data sources into a structured data-processing workflow.
- Reduced manual patient checking from approximately three months to one day of automated extraction and one week of final validation.
- Implemented missing-data fallback handling and automated validation logic to improve data reliability.

- Produced Excel-based outputs for hospital staff to support operational checking and reporting.

Sentiment Analysis of Pilkada 2024

Personal Project

This project aimed to analyze public sentiment surrounding the **2024 Pilkada** (regional election) on **Twitter** by classifying tweets into positive, negative, and neutral categories using the **NRC Lexicon**. The focus was primarily on the **Pilkada DKI Jakarta** election discussions.

- Collected approximately 1,000 tweets related to “Pilkada DKI” using Tweet Harvest from early 2024 to May 2024.
- Performed text preprocessing, including URL removal, hashtag removal, stopword removal, stemming, tokenization, slang normalization, and duplicate handling.
- Classified public sentiment into positive, negative, and neutral categories using the NRC Lexicon approach.
- Generated sentiment proportion analysis to identify public opinion distribution toward Pilkada DKI Jakarta discussions.

Portofolio Optimization

Undergraduate Thesis

Stock Portfolio Optimization of LQ45 Index using LSTM, Kalman Filter, and Model Predictive Control Undergraduate Thesis Project

- Developed an end-to-end stock portfolio optimization framework using LSTM-based return prediction, Kalman Filter noise reduction, and Model Predictive Control for dynamic asset allocation.
- Used LQ45 stock price data from 2015 to 2025 and Twitter sentiment data aligned with the February–July 2025 index period.
- Built return prediction models using PyTorch, pandas, scikit-learn, and Optuna for feature combination and hyperparameter optimization.
- Evaluated model performance using RMSE, Directional Accuracy, Information Coefficient, Sharpe Ratio, and Value at Risk 95%.
- Achieved the strongest model performance on selected stocks such as MEDC, AKRA, ADMR, MDKA, and BBNI, with the best Directional Accuracy reaching 0.585 and the highest Information Coefficient reaching 0.0919.
- Generated optimized portfolio weights using MPC based on predicted stock returns and risk constraints.

TukuPos Sales Analysis

Team Project **September 2024-Desember 2024**

Applied research project using transaction data from TUKUPOS, a point-of-sale application for **UMKM (Micro, Small, and Medium Enterprises)** in Purbalingga, designed to support digital financial and sales management through an affordable and user-friendly platform.

- Analyzed approximately 1,000 transaction records from a point-of-sale system, including product, price, quantity, category, and customer information.
- Processed and analyzed sales data using Python to identify sales trends, revenue patterns, and stock planning insights.
- Applied ARIMA for sales trend forecasting and Apriori analysis to support product association and inventory planning.
- Generated analytical findings indicating relatively stable future sales patterns and recommended stock planning based on transaction behavior.
- Worked as part of the analysis team in collaboration with the web development team and client-side stakeholders.

Acne Detection

Personal Project

The goal of this project was to develop a real-time acne detection model to identify acne-related features in facial images, aiming to create a potential tool for skincare applications.

- Developed a real-time acne detection system using YOLOv11n and webcam-based object detection.
- Combined public Roboflow datasets with self-collected primary image data, totaling approximately 800 facial image samples.
- Labeled acne classes manually using Roboflow, including pustule, papule, nodule, and non-acne categories.
- Trained and evaluated the YOLOv11n model using object detection metrics such as confidence score and mAP50.

Skills

Business & Analytical Skills:

Business Analysis, Data Cleaning, Validation & Processing, Data & Insight Analysis, Problem Solving & Critical Thinking, Stakeholder Communication, Reporting & Presentation.

Technical Exposure:

Microsoft Excel, Python, R, SQL, Data Analysis & Visualization, AI & Machine Learning Project Exposure, Workflow Automation

Tools:

Power BI, SPSS, EViews

Languages:

Bahasa Indonesia (Native), English (B2,TOEFL ITP 547)