MUHAMMAD ILMAN MUGHNI

Data Analyst | ML Enthusiast | Mechanical Engineering

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PROFESSIONAL SUMMARY

Results-driven Data Analyst with a Mechanical Engineering background and hands-on experience in industrial maintenance and commissioning of a copper smelter facility. Strong foundation in data analytics and data science, with hands-on experience in Python, SQL, machine learning, and business intelligence dashboards to transform raw data into actionable insights and support strategic business decision-making. Combines strong analytical thinking and engineering problem-solving to extract actionable insights from complex datasets and translate them into strategic business decisions. Seeking to leverage a unique cross-disciplinary skill set in a data analyst or data science role.

TECHNICAL SKILLS

Data & Analytics	Python (Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn), SQL, BigQuery, ETL, Jupyter Notebook, Git / GitHub
Machine Learning	Supervised Learning, Classification, Regression, Feature Engineering, SMOTE, XGBoost, Logistic Regression, Random Forest
BI & Visualisation	Tableau, Microsoft Power BI, Streamlit, Microsoft Excel (Advanced), Google Looker Studio
Engineering	SAP S/4HANA, Criticality Analysis, Root Cause Analysis, Preventive & Corrective Maintenance, ANSYS Fluent, 3D Modeling (SolidWorks, Autodesk Inventor)
Competencies	Analytical Thinking, Problem Solving, Data Interpretation, Data Storytelling, Cross-functional Communication, Attention to Detail, Critical Thinking, Fast Learner

WORK EXPERIENCE

Purwadhika Digital Technology School

Jan 2026 – May 2026

Data Science & Analytics Bootcamp — Full-time Trainee · Tangerang, Indonesia

- Performed end-to-end data analysis using Python (Pandas, NumPy, Matplotlib, Seaborn) and SQL / BigQuery to extract, clean, and transform datasets into actionable business insights.
- Built and evaluated machine learning models (classification, regression) using Scikit-learn, applying feature engineering, cross-validation, and hyperparameter tuning to improve predictive performance.
- Developed interactive Tableau dashboards to communicate complex analytical findings to non-technical stakeholders in a clear and business-friendly format.
- Completed 4 end-to-end data projects covering churn prediction, fraud detection, geospatial EDA, and CRUD application development — demonstrating full data science workflow from problem framing to deployment.

Skills: Data Analytics · SQL · Python · Machine Learning · Tableau · Streamlit · EDA · ETL

AMMAN Mineral Industri

Jan 2024 – Dec 2025

Maintenance Engineer — FSF, FCF, Cooling Water & Granulation · Sumbawa, Indonesia

- Conducted criticality analysis on 200+ mechanical assets, classifying equipment by production impact, safety risk, and environmental significance — enabling data-driven prioritisation of maintenance resources.
- Managed and tracked 200+ work orders through SAP S/4HANA, maintaining structured records that supported equipment performance analysis and informed future maintenance decisions.
- Developed maintenance SOPs, spare parts plans, and PM/CM schedules for 200+ assets, reducing unplanned downtime during smelter operation.
- Designed a flux (CaO) blower system (scoping, fabrication coordination, and performance validation) — improving material handling efficiency in the FSF plant.
- Performed leak tests (hydrotest & pneumatic) on Natural Gas, Cooling Water, Nitrogen, and Oxygen lines; conducted coupled equipment tests for pumps, fans, and blowers.
- Monitored and controlled maintenance budget; coordinated cross-departmental permit-to-work, work execution, and planned shutdown activities.

Skills: SAP S/4HANA · Criticality Analysis · Root Cause Analysis · PM/CM · Commissioning · Maintenance Planning

DATA PROJECTS

Telco Customer Churn Prediction *Machine Learning · Imbalanced Classification*

Built an end-to-end ML pipeline to predict customer churn for a telecom company. Performed EDA, feature engineering, class-imbalance handling, and compared multiple classifiers. Deployed as an interactive Streamlit web app for non-technical users.

Tools: Python, Pandas, Scikit-learn, Streamlit

GitHub Repo

Airbnb Bangkok — EDA & Tableau Dashboard *EDA · Geospatial Analysis · Data Visualisation*

Conducted exploratory data analysis on Bangkok Airbnb listings to uncover listing performance patterns based on geospatial and location factors. Built an interactive Tableau dashboard allowing business stakeholders to explore neighbourhood-level pricing and occupancy insights.

Tools: Python, Pandas, Seaborn, Tableau

GitHub Repo | Tableau Dashboard

Car Insurance Fraud Detection *Machine Learning · Imbalanced Classification*

Developed a fraud detection model for car insurance claims using SMOTE and class-weighting to handle severe data imbalance. Optimised for recall to minimise missed fraud cases. Deployed as a Streamlit app for interactive prediction.

Tools: Python, Scikit-learn, SMOTE, Jupyter

GitHub Repo

EDUCATION

Universitas Indonesia *Aug 2020 – Jul 2023*

Bachelor of Engineering — Mechanical Engineering · Depok, Indonesia

- GPA: 3.72 / 4.00 · Relevant coursework: Fluid Mechanics, Microfluidics, HVAC, Mechanical Design.
- Final Thesis: CFD Simulation of Water-in-water Droplet Generation using ANSYS Fluent — parametric study across 25 flow rate ratio variations to advance biomedical microfluidics technology.

LNG Academy *Jul 2017 – Jul 2020*

Associate Degree — Mechanical Engineering · Bontang, Indonesia

- GPA: 3.66 / 4.00 · Specialisation in rotating equipment, piping, pressure vessels, LNG processing, and corrosion engineering.
- Final Project: Fabrication of Heat Stable Salts (HSS) Removal Prototype — designed per ASME VIII Div. 1 & ASME B16.5, stress analysis via SolidWorks, NDT validation (dye penetrant & leak test).

RESEARCH, AWARDS & CERTIFICATIONS

- **Patent S00202111212** — High Torque, Self-Rechargeable Electric Bicycle with Knockdown System (Tanoto Student Research Award 2021 — Top 9, Appropriate Technology)
- **Best Presenter** — INSITEF 2022 (3rd International Science & Technology Fair & 3rd Mechanical Engineering Joint Symposium)
- **Finalist:** PLN Innovation & Competition in Electricity 2021 (E-bike) · BRI Peduli Creation 2021 · 5th Place, ITS Petroleum Integrated Days 2021 Case Study Competition
- **Certifications:** Purwadhika Data Science & Machine Learning · Data Analytics Mini Course (RevoU) · Excel Skills for Business: Essentials (Coursera)