Thariq Ahmad Baihaqi Adinegara

Data Scientist & AI Engineer | Bioprocess Engineering Graduate

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SUMMARY

Data Scientist and AI Engineer with a B.Eng. in Bioprocess Engineering from Universitas Indonesia (GPA 3.44) and certified AI training. My engineering background provides a rigorous, analytical framework for solving complex business problems. I have a proven track record of delivering end-to-end data solutions, including:

- **AI & Machine Learning:** Fine-tuning **YOLOv12** models for Computer Vision and engineering multi-tool **LLM agents** (LangChain, RAG, SQL Agents).
- **Business Intelligence:** Building dashboards in **Power BI, Tableau, & Looker Studio**; connecting to **SQL Server & Google BigQuery**; performing **ETL** (Star Schema, SQL Views), and writing **DAX**.
- **Process Automation:** Architecting **Power Platform** solutions (Power Apps, Power Automate) to automate enterprise workflows.

I am passionate about building, deploying, and monitoring data-driven solutions and am seeking a tech role where I can leverage my unique blend of engineering, automation, and AI skills to build impactful products.

DATA SCIENCE, AI, & ANALYTICS PROJECTS

AI (Computer Vision & LLM)

Automated PPE Compliance Auditor (Computer Vision) *Purwadhika Capstone Project*

- Engineered and deployed an end-to-end **Computer Vision** application to automatically audit PPE (Personal Protective Equipment) compliance for HSE (Health, Safety, Environment) use cases.
- **Fine-tuned a YOLOv12 object detection model** on a custom safety dataset to identify workers and classify their compliance status (Helmet, Vest) with high accuracy.
- Built an interactive **Streamlit** dashboard using **OpenCV** and **Pandas** to process batch image uploads and automatically generate a KPI report (e.g., Overall Compliance Rate, Total Violations).

CineBot: Multi-Tool Conversational AI Agent (LLM Project) *Purwadhika Capstone Project*

- Engineered a multi-tool conversational AI agent using **LangChain** and **Python** to function as a movie expert.
- Implemented a **RAG (Retrieval-Augmented Generation)** pipeline with a **Qdrant** vector database for semantic recommendations.
- Developed a **Text-to-SQL sub-agent** to query a **SQLite** database for factual data retrieval.
- Integrated **Langfuse** for end-to-end **observability and tracing** of the agent's logic (MLOps).

Business Intelligence & Analytics

A/B Test Analysis: Product Page Conversion *Self-Initiated Project (Looker Studio + BigQuery)*

- Simulated a tech company environment by analyzing A/B test data; architected a cloud data pipeline by uploading raw data to **Google BigQuery** and transforming it with **SQL Views**.
- Built a "GO/NO-GO" executive dashboard in **Looker Studio**, developing all key metrics (e.g., `Users`, `Conversion Rate`, `Projected Revenue`) using calculated fields.
- Delivered a "GO" recommendation by identifying a **160.5% conversion uplift** and forecasting a **Rp 159.7M revenue impact**.

Tokyo Airbnb Supply & Demand Analysis *Self-Initiated Project (Tableau)*

- Developed an interactive dashboard in **Tableau Public** to analyze supply, demand, and pricing for 23,000+ Tokyo Airbnb properties.
- Engineered key operational metrics (e.g., **Occupancy Rate, Est. Annual Revenue**) from raw data using **Calculated Fields**.
- Performed **geospatial analysis** to map demand hot spots and cleaned the dataset by filtering extreme price outliers using Data Source Filters.
- Identified actionable insights on high-demand, under-priced neighborhoods, providing a clear recommendation for pricing strategy adjustments.

End-to-End Sales Analysis Dashboard *Self-Initiated Project (Power BI + SQL Server)*

- Designed and built a 3-page, interactive **Power BI** dashboard to analyze sales KPIs, product performance, and customer demography trends from the AdventureWorks database.
- Performed end-to-end data processing by connecting Power BI to a live **SQL Server (SSMS)**. Executed **ETL** processes using **Power Query** to transform the database from a Snowflake Schema into an optimized **Star Schema**.
- Developed 10+ key analytical metrics (e.g., Sales YoY %, Avg. Sales per Customer, Profit Margin) using **DAX**.

Process Automation

Power Platform ECR Automation System *Self-Initiated Project*

- Designed and built a complete business solution to automate an **Engineering Change Request (ECR)** workflow, relevant for project and operations management.
- Developed a **Power App** front-end for submissions, an automated **Power Automate** flow for multi-step approvals, and a **Power BI** dashboard to track KPIs.
- Integrated with **MS Planner** to automatically create and assign execution tasks upon approval.
- Utilized a **SharePoint List** as the central database, creating a single source of truth.

Process Automation Project (Oil & Gas)   *09/2025-10/2025*
UPPM Teknik Kimia UI, Client: PT. Pertamina Hulu Indonesia

- Spearheaded a process automation initiative, developing a **Python**-based solution that **reduced daily project completion time by over 60%** (from 8 hours to <3 hours) for a team of 40 analysts.

ENGINEERING & FINANCIAL MODELING PROJECTS

Capstone Project Lead | Industrial Plant Techno-Economic Analysis   *01/2024-05/2024*
Universitas Indonesia

- Led a 6-member team in the techno-economic feasibility study and detailed design for an 815.46-ton/year Aconitic Acid production plant.
- Performed comprehensive **financial modeling** and profitability analysis, estimating **CAPEX ($18.5M)**, projecting **NPV ($73.18M)**, and calculating an **IRR (18.17%)**.
- Conducted **sensitivity analysis** on key variables to perform **risk assessment**.

LEADERSHIP & WORK EXPERIENCE

Leader of Financial Audit and Funding Commission   *01/2024-12/2024*
Majelis Permusyawaratan Mahasiswa FTUI 2024

- Drove a **59% reduction in operational spending** (from IDR 1.12B to IDR 459M) across 159 student programs through **data-driven budget control** and lean evaluation principles.

Process Development Intern   *07/2024-08/2024*
PT. Abdul Fatah Integrated Farming

- Gained practical experience in operational systems, focusing on process improvement and **waste-to-value analysis**.

EDUCATION

Bioprocess Engineering - Department of Chemical Engineering   *07/2021-07/2025*
Universitas Indonesia

- GPA 3.44/4.00 (144 credits)

AI Engineering Bootcamp   *07/2025-11/2025*
Purwadhika Digital Technology School

- Completed intensive, project-based training in Data Science, Machine Learning, Computer Vision, and Generative AI.

TECHNICAL SKILLS & COMPETENCIES

- **BI & Analytics: Power BI**, **Tableau**, **Looker Studio**, **DAX**, **Power Query (ETL)**, Geospatial Analysis
- **AI & Machine Learning:** Generative AI (LangChain, LLMs, RAG, OpenAI API), **Computer Vision (YOLOv12, OpenCV)**, Predictive Modeling (Scikit-learn)
- **Data & Databases: Python (Pandas, NumPy, PIL)**, **SQL Server (SSMS)**, **Google BigQuery**, **MySQL**, **SQLite**, SharePoint Lists
- **Automation: Power Automate**, **Power Apps**, Streamlit, MS Planner
- **Engineering & Finance:** Techno-Economic Modeling (NPV, IRR), Process Simulation (SuperPro), Risk Assessment (Sensitivity Analysis)
- **Languages & Soft Skills:** English (Fluent, CEFR C1), Bahasa Indonesia (Native), Analytical Problem-Solving, Leadership, Stakeholder Communication

CERTIFICATES & ACHIEVEMENTS

English Proficiency Certificate   *11/2025-11/2027*
IELTS

- Obtained an IELTS score of 7.5 (Fluent, CEFR C1).

Top 3 in Product Innovation Category   *06/2022*
Tagteam Society for Biological Engineering SC UI x PT Nutrifood Indonesia

- Designed a commercial beverage product, including its industrial-scale production process.