

# Muhammad Iqbal Hilmy Izzulhaq

Data Scientist | AI Engineer

+62 85236406001 | miqbal.izzulhaq@gmail.com | Jakarta, Indonesia

[LinkedIn](#) | [GitHub](#) | [Portfolio](#)

## Summary

A highly motivated and results-oriented Data Scientist with a passion for building intelligent and autonomous AI agents. Recently completed "The Complete Agentic AI Engineering Course," gaining hands-on experience in designing, building, and deploying autonomous agents using cutting-edge frameworks like OpenAI Agents SDK, CrewAI, LangGraph, and AutoGen. Proven ability to apply Agentic AI to solve real-world commercial problems and architect robust and scalable AI solutions.

## Working Experiences

**The House of Representatives, Republic of Indonesia (DPR RI) | Jakarta, Indonesia | April 2025 – Oct 2025**

### Data Scientist Intern

- Conducted socioeconomic analysis on SUSENAS data to support policy recommendations through Python-based data wrangling, visualization, and dashboard reporting.
- Performed NLP on Mahkamah Konstitusi verdicts to extract key constitutional issues and identify trends in judicial review cases.
- Built a Retrieval-Augmented Generation (RAG) prototype to enhance legal document search and summarization for legislative insight.
- Leveraged Dify.AI and n8n to build no-code RAG workflows, enabling efficient legal content retrieval and autonomous document summarization with a user-friendly UI.

**AI Tech & Data for Corporate Training (Project-Based) | Jakarta, Indonesia | Aug 2025 – Present**

RevoU

**Role: Mentor / Team Lead | Clients: Bayan Resources, PT Jalin, AXA Mandiri**

- Spearheaded Jalin's first corporate **AI Engineering** training, guiding non-developer employees to build AI agents for their daily tasks
- Supported corporate AI and data training programs for clients including Jalin, Bayan Resources, and AXA Mandiri.
- Ensured participants understood technical materials and could apply concepts effectively.
- Assisted in addressing technical questions and guided hands-on project implementation.
- Collaborated with instructors to align learning outcomes with business and technical goals.
- Covered materials including AI fundamentals, Generative AI, prompt engineering, and no-code automation tools (Zapier, n8n).
- Introduced data literacy concepts, such as data cleaning, visualization with Power BI, and responsible AI practices. Gathered and analyzed feedback, graded assignments/tests, and prepared final performance reports for stakeholders.

## Projects

### 1. Career Digital Twin: > [Explore](#) > [Demo](#)

Built and deployed a personal agent to represent my skills and experience to potential employers, automating the initial stages of job applications.

### 2. Trader Agent Simulator – Autonomous Portfolio Management (Agentic AI)

Built an intelligent trader agent using the OpenAI Agents SDK, capable of alternating between trading and rebalancing its portfolio using real-time insights from a researcher agent. Leveraged advanced async context management for clean multi-server handling, and integrated support for multiple LLM providers (OpenAI, DeepSeek, Google, Anthropic).

### 3. Indonesian Parliament Activity Chatbot:

This project implements a chatbot that can answer questions about the activities and agendas of the Indonesian Parliament members. It utilizes a SQL database containing agenda data and leverages large language models (LLMs) through the Langchain library to interact with the database and provide natural language responses. **Features:** Natural language understanding in Indonesian, database interaction with SQLite, SQL query generation, natural language responses, and a Gradio web-based chat interface.

### 4. Telco Churn Analysis > [Explore](#)

Developed a churn prediction model using AllKNN with hyperparameter tuning, focused on minimizing false negatives. Achieved **93.7% recall**, reducing potential high-risk churn losses by **\$18.8K** and cutting total misclassification costs by **\$48.5K**, outperforming benchmark models like XGBoost and Random Forest.

## 5. Airbnb Data Analysis Link > [Explore](#)

Analyzed Airbnb listings in Bangkok to identify peak-season revenue opportunities for December. Implemented dynamic pricing, extended-stay discounts, and last-minute deals. These optimizations increased total December revenue by **7.6%**, generating an additional **\$3.9 million** in high-demand areas like Khlong Toei and Vadhana.

## Education

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**Purwadhika Digital Technology School | BSD, Tangerang, Indonesia | October 2024 – February 2025**

**Modules Taken:** Python Fundamentals, Data Analysis, and Machine Learning

**University of Brawijaya | Malang, East Java, Indonesia | August 2019 – December 2023**

**Bachelor of Science in Physics** (Material Science)

GPA: 3.39 / 4.00

**Certificate:** [Explore all of my credentials](#)

**Agentic AI Engineering | Udemy | Issued July 2025**

This comprehensive program provides intensive, hands-on training in designing, building, and deploying autonomous AI agents. Participants master Agentic AI architectures and frameworks, including OpenAI Agents SDK, CrewAI, LangGraph, and AutoGen, by building eight real-world projects with commercial applications. The course focuses on connecting LLMs with proven design patterns to solve complex problems.

Check the [credentials](#)

**Artificial Intelligence | Kominfo's Digital Talent Scholarship | Issued September 2023**

This program covers essential Artificial Intelligence (AI) aspects, including concepts, trends, and practical development. Participants will learn about traditional machine learning, deep learning, and development frameworks.

Check the [credentials](#)

**Data Science & AI | DQLab (Python, R, Data Wrangling, Visualization) | Issued 2020 – 2022**

DQLab is an online learning platform focused on introducing Data Science and Artificial Intelligence (AI). It provides a comprehensive learning experience using Python and SQL programming languages.

Check the [credentials](#)

## Hard Skills

- Predictive Analytics
- Recommender Systems
- Data Preprocessing
- Data Analytics
- Statistical Data Analysis
- Large Language Models (LLMs)
- Dashboard Development
- Retrieval-Augmented Generation (RAG)
- Machine Learning
- Unsupervised Learning
- Predictive Modeling
- Feature Engineering
- Metrics Evaluation
- Time Series Analysis
- Prompt Engineering
- OpenAI Platform & Tools
- Model Context Protocol (MCP)
- Supervised Learning
- Hyperparameter Tuning
- Data Visualization
- Natural Language Processing (NLP)
- Statistical Analysis
- Agentic AI Workflow
- LangChain / LangGraph
- Multi-agent Systems
- Chatbot Development

**Programming Languages:** Python, SQL, Excel

**Frameworks:** OpenAI Agents SDK, CrewAI, LangGraph, AutoGen

**Data Tools:** Tableau, Excel (Advanced), Visual Studio Code, Google Colab, MySQL Workbench, Looker Studio, Microsoft Power BI, Cursor, Jupyter Notebook, Cursor

## Soft Skills:

- Critical Thinking
- Collaborative
- Critical Thinking
- Problem Solving
- Growth Mindset
- Analytic Problem Solving
- Adaptability/Flexibility
- Time Management
- Teamwork and Collaboration

**Languages:** Bahasa Indonesia (**Native**), English (**Limited Working Proficiency**)