

MUHAMMAD HATTA ABDILLAH

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Jakarta, Indonesia

PROFILE

AI Engineer with hands-on experience building **tools with LLM-based and agentic AI systems** for **data-driven** business & consulting and medical use cases. Currently developing AI-powered internal platforms that support strategic planning, people development, and organizational analysis by combining large language models with structured and unstructured data and domain knowledge. Experienced in designing **RAG and GraphRAG architectures**, integrating knowledge graphs, and deploying end-to-end AI pipelines from data ingestion to evaluation. Strong background in Programming, Python (Data), FastAPI, vector databases, and cloud platforms (GCP & Azure).

EDUCATION

University of Sumatera Utara (USU) – Medan, Indonesia <i>Bachelor of Computer Science, in Information Technology</i>	Aug, 2021 – Jul, 2025
<ul style="list-style-type: none">Cumulative GPA : 3.91 / 4.00Thesis: Implementation of GRAPHRAG in Developing a Multimodal Biomedical Chatbot using LLM, LangChain, and Neo4j. Successfully processed and analyzed the complex MIMIC IV v3.1 dataset to build a robust knowledge base, demonstrating advanced data handling and analysis capabilities.	

EXPERIENCE

PT Pengembang Sistem Manajemen – Jakarta, Indonesia AI Engineer	Nov, 2025 – Present
<ul style="list-style-type: none">Develop AI-powered internal platforms to support data-driven strategic and organizational consulting using LLM & RAG based systems.Build and deploy agentic AI workflows (FastAPI, OpenAI LLMs, Qdrant) that generate structured outputs based on company data, organizational structures, and internal knowledge modules.Implement agentic AI services in HSF (Human Plus Strategic Framework) to automate Goal Roll Down and People & Organization Development processes, enabling faster generation of department-level strategic goals and organizational insights from structured company data and internal frameworks.	
PT Telkom Indonesia (Persero) Tbk – Jakarta, Indonesia Software Engineer Intern	Sept, 2024 – Des, 2024
<ul style="list-style-type: none">System Integration & Optimization: Engineered backend services using Java (Play Framework) and Go, implementing a Redis caching solution to improve application responsiveness and scalability for a national-scale e-procurement system.Cloud Infrastructure & Collaboration: Contributed to a large-scale migration to Google Cloud Platform (GCP), performed PostgreSQL query optimization, and worked within an Agile development environment alongside the GovTech Procurement team.	
PT Bukit Makmur Mandiri Utama (BUMA) – Jakarta, Indonesia AI & Application Developer Team Intern	Feb, 2024 – Jun, 2024
<ul style="list-style-type: none">End-to-End AI Solution Development: Designed and developed an end-to-end RAG-based AI solution to automate internal business processes, covering data preparation, model testing, and performance evaluation.Model, Platform & Agent Integration: Integrated a RAG-based LLM (GPT-4) into existing enterprise workflows and built a full-stack application (.NET & ReactJS) using Semantic Kernel to orchestrate AI components and implement agent-based (ReAct) workflows.	
Awardee Mobility Program to UiTM – Shah Alam, Malaysia	Mar, 2023 – Aug, 2023
<ul style="list-style-type: none">Selected as one of the information technology students from Universitas Sumatera Utara for a student exchange program at Universiti Teknologi Mara (UiTM), completing a semester of study abroad.Achieved GPA : 3.61 / 4.00Relevant Courses ; Software Engineering - Theories and Principles & Image Processing	

PERSONAL & TEAM PROJECTS

Multimodal Biomedical Chatbot (Thesis Project) – Medan, Indonesia

Apr, 2025 – Jun, 2025

Software Developer – Data Engineer

- **End-to-End AI System Deployment:** Architected and built a conversational AI system from the ground up. Designed and implemented an ETL data pipeline to preprocess and integrate the challenging **MIMIC-IV** medical dataset into a Neo4j Knowledge Graph, ensuring efficient and reliable data flow for model orchestration.
- **AI Orchestration:** Developed the core logic using **LangChain** to orchestrate interactions between a state-of-the-art LLM (**Google's Gemini 2.5 Pro**) and the knowledge graph, served via a **FastAPI** backend. Including the implementation of **multi-step planning** and decision-making workflows.
- Validated system performance using the RAGAs framework, achieving exceptional scores for **faithfulness (97%)**, **context precision (85.7%)**, and **answer correctness (80.5%)**, proving the chatbot's reliability in handling complex biomedical information.

BUMA AI Chatbot – Jakarta, Indonesia

May, 2024 – Jun, 2024

Software Developer

- Developed an **AI Chatbot** leveraging Azure Services (GPT-4, Cognitive Search, Blob Storage) to implement a **Retrieval Augmented Generation (RAG)** system with secure, role-based access.
- Created a **ReactJS frontend** integrated with Azure Semantic Kernel and a .NET backend, supporting file uploads and advanced Q&A for a seamless user experience.

Dental Management System – Shah Alam, Malaysia

Jul, 2023

Software Developer

- **Co-created a User-Centric Health Solution:** Collaborated with a team of Malaysian students to design and develop a Dental Management System aimed at empowering users to proactively manage their oral health.
- **Engineered the Core AI Feature:** Led the development of the AI-driven disease detection system. Trained a CNN model on over 5,000 images, achieving **87%+ accuracy** in classifying four types of dental diseases, providing real value to users.

ORGANISATIONAL EXPERIENCE

Google Developer Group on Campus (GDGoC) USU – University Scope

Sep, 2023 – Jul, 2024

Staff of Technical Division

- Contributed to curriculum design and event organization, achieving a **22% improvement in student engagement** and a **35%+ growth in workshop participation**.

SKILLS & TOOLS

- **AI & Generative AI** : LLMs, Generative AI, NLP, Prompt Engineering, **RAG**, **GraphRAG**, Agentic AI, LangChain, LangGraph, Semantic Kernel, Embedding Models, Computer Vision, **Model Evaluation (RAGAs)**.
- **Backend & Cloud** : Python (**FastAPI**), Go, Java, RESTful API Development, Microservices Architecture, Redis (Caching, Pub/Sub), Docker, CI/CD (GitLab & GitHub), **Cloud Platforms: GCP, Azure**
- **Database & Analytics** : SQL (PostgreSQL, MySQL), Neo4j (**Knowledge Graph**), **Vector Databases (Qdrant, Pinecone)**, ETL Pipelines, Data Processing & Cleaning, Pandas, NumPy, Feature Engineering, **MLflow (experiment tracking – exploratory)**
- **Soft Skills** : Analytical Thinking, Problem Solving, Cross-functional Collaboration, Communication, Adaptability, Continuous Learning
- **Languages** : Indonesian (Native), English (Proficient), Malay (Proficient), Arabic (Conversational), German (Basic)