

Thirza Ahmad Tsaqif

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EDUCATIONAL BACKGROUND

Information System | Bachelor of Computer Science | Universitas Indonesia, Depok, Indonesia

September 2022 - 2026

GPA : 3.58

EXPERIENCES

Web Developer, Internship | IR-NLP Lab Faculty of Computer Science Universitas Indonesia

September 2025 - December 2025

- Redeveloped the lab's landing page using **Django**, upgrading it from a static site to a dynamic platform and a comprehensive admin dashboard.
- Architected an automated **ETL pipeline** to aggregate research publications, managing the workflow from raw scraping and blob storage to final processing and website integration.

Software Engineer, Internship | OPPO Manufacturing Indonesia

June 2025 - September 2025

- Developed a **HR AI Agent** utilizing **RAG and LLM** for the information and **STT and TTS** for the input and output, and **Face Recognition** for employee authentication, deployed and optimized to run on **local GPU** infrastructure.
- Designed and implemented a **computer vision-based image classification and anomaly detection** system to classify workplace conditions according to **5S** (Sort, Set in order, Shine, Standardize, Sustain) methodology.
- Developed an **AI-driven Root Cause Analysis tool** using **RAG and LLMs** to automate the "5 Whys" technique based on historical problem reports, streamlining issue resolution and knowledge reuse. fully self-hosted with local GPU resources to ensure data security and performance.

Backend Developer, Internship | Aether AI | March 2025 - July 2025

- Developed and deployed a backend and intelligent chatbot system for PFN using **FastAPI** and **Vectorshift**, integrating **OpenAI**'s language models with the Retrieval-Augmented Generation (**RAG**) method to provide accurate film-related information.
- Built and implemented a backend and AI-powered chatbot for KJRI New York using **FastAPI** and **Vectorshift**, leveraging OpenAI and the RAG approach to deliver real-time, context-aware consular information.

Software Engineer, Volunteer | Replenish Nutraceuticals | February 2025 - May 2025

- Built an AI Dosage Recommendation and information system using **OpenAI/FAISS** and a **FastAPI/Django** stack with **JWT auth**.

Backend Developer (Project Based), Internship | Avatar Digital | April 2025 - May 2025

- Engineered a shipment admin backend using **Go lang (Echo)** and **MariaDB**, containerized via **Docker**.

Teaching Assistant of Data Structures and Algorithms | Faculty of Computer Science, Universitas Indonesia

September 2024 - December 2024

- Designed and evaluated programming tasks for Linked Lists and Graphs, conducting **code reviews** and providing **technical mentorship** to students during lab sessions.

Developer Staff, Multimedia Department | BEM Universitas Indonesia | March 2024 - December 2024

- Managed the Integrated Information System (SIT) and LINE Messaging API (LINE bot) for 200+ users using **Django/Firebase**, deployed on **Railway**.

Backend Staff | BEM Faculty of Computer Science UI | March 2023 - December 2023

- Developed critical modules (Recruitment, Scholarship) using **Django** and **Golang**, ensuring code quality via **SonarQube**.

Mentor & Visual Design Staff | DDP - 0 | June 2023 - July 2023

- Mentored first-year students in Python programming and designed educational assets using Figma.

Visual Design Staff | PERAK | March 2023 - September 2023

- Designed visual branding and marketing assets for faculty sports competitions using Figma.

PROJECTS

Nevatal | Build Your AI Hackathon Submission | [\[Github\]](#) [\[Devpost\]](#)

- Developed a **full-stack AI application** that integrates multiple **Gemini LLM capabilities**—including prompt generation, text utilities, Documents RAG, and image generation using **Gemini Nano**.
- Built with **Django REST Framework**, **PostgreSQL**, and a **Vite + React + TypeScript + Tailwind** frontend.
- Implemented **fine-tuned Gemini models** with parameter adjustments and **RAG functionalities** using Gemini embeddings for enhanced contextual responses
- **Fully Dockerized** for seamless deployment, enabling users to self-host and interact with the app via their **Gemini API key**.

Ollie Chatbot | Oppo Manufacturing Indonesia

- Developed a secure **HR AI Agent** integrating **FaceNet** for biometric authentication and **Gemma Ollama LLMs** to automate employee inquiries.
- Engineered a **RAG pipeline** using **Faiss** and **PostgreSQL** to retrieve policy data, coupled with a local **OpenAI Whisper** deployment for real-time Speech-to-Text.
- Implemented a **custom-trained Indonesian xTTS Transformer** model to enable natural voice interaction, fully optimized for **on-premise GPU** infrastructure.

5S AI Camera | Oppo Manufacturing Indonesia

- Trained a **ConvNeXt** and **Transformer** computer vision model using **PyTorch** to automate workplace safety (5S) compliance monitoring.
- Integrated **Gemma Vision** to generate descriptive violation reports and **OwlViT/LLaVA** for precise object detection and identification.
- Built a real-time monitoring dashboard using **React**, **TypeScript**, and **Tailwind CSS** to visualize camera feeds and itemized violation logs.

5Why AI Application | Oppo Manufacturing Indonesia

- Developed an **automated Root Cause Analysis tool** using **Deepseek LLMs** to execute the "5 Whys" methodology on historical incident reports.
- Implemented a **Dense and Sparse RAG** architecture with **Faiss** and **MiniLM**, optimizing context retrieval for accurate problem diagnosis.
- Architected a full-stack solution with **FastAPI** and **PostgreSQL** backend and a **React/shadcn/ui** frontend, ensuring secure and low-latency performance.

KJRI New York Chatbot (Maleo AI) & PFN Chatbot | Aether AI

- Built an **AI-powered** chatbot for consulate-related inquiries, reducing manual inquiry handling and serving as the front-line resource for FAQ responses. Integrated **GPT** with **Retrieval-Augmented Generation (RAG)** and **Vectorshift** for context-aware document retrieval.
- Developed and deployed the backend using **FastAPI**, ensuring secure, scalable, and low-latency response handling.

PFN Chatbot | Aether AI

- **Developed an AI chatbot** that delivers information about films produced by PFN by crawling the PFN website and indexing official documents.
- **Integrated Vectorshift, GPT, and RAG** to enable context-aware retrieval of film metadata and FAQs, improving the relevance of answers for user queries.
- **Built and deployed the backend with FastAPI (Python)**, ensuring secure, scalable, and low-latency API endpoints for real-time chat interactions.

Integrated Information Systems (SIT) | BEM UI

- Engineered a comprehensive organizational management platform using **Django** and **Firebase** on **Railway**, streamlining financial, administrative, and sponsorship workflows.
- Integrated a **LINE Messaging API bot** to automate internal communications and publication tasks, reducing delays and serving over 200+ active staff members.

JNE Self Kiosk Backend | Avatar Digital

- **Developed a self-service parcel delivery backend application** for JNE using **Go** and the **Labstack Echo** framework.
- **Implemented CI/CD pipelines** with **GitHub Actions**, automating build, test, and deployment processes to improve development efficiency and reliability.

Open Recruitment Website API | BEM Fasilkom UI

- Developed a recruitment website for selecting the next term's BEM Fasilkom UI members.
- Built using **Go** with the **Gin framework** and **PostgreSQL**.
- Adhere to **API Documentation** and contract to increasing integration with Frontend

RAGReader | NextAI Hackathon Submission | [\[Github Backend\]](#) [\[Github Frontend\]](#) [\[Devpost\]](#)

- Developed a **multi-LLM RAG** application (**OpenAI, Claude, Mistral**) using **LangChain** and **Django REST Framework** to retrieve and synthesize content from external URLs and files.
- Built a responsive frontend with **Vite, React, and TypeScript**, ensuring seamless interaction with the generative AI pipeline.

Ubuntu Home Server | [\[Documentation\]](#)

- Designed and deployed a self-hosted Ubuntu home server utilizing Docker containers, exposed securely to the public via Cloudflare Tunnel, and integrated with GitHub Actions using a self-hosted runner to enable automated CI/CD workflows.

Dosage Recommender | Replenish Nutraceuticals

- Designed a data-driven dosage API using FastAPI, Airtable, and OpenAI GPT.

API LPJ Online & Best Staff Voting Website API | BEM Fasilkom UI

- Developed a robust backend API for organizational reporting and best staff voting website using **Django REST Framework** and **PostgreSQL**.

ChattyDesk | Dev Challenge Submission [\[Github Backend\]](#) [\[Github Frontend\]](#) [\[Devpost\]](#)

- Built a cross-platform desktop multi-LLM chat app (**Gemini, Claude, Mistral**) using **Electron, React, and Django**.

Silnven | Propensi Courses

- Engineered a full-stack inventory management for LIA foundation system using **Java Spring Boot** and **PostgreSQL**, fully containerized via **Docker** for consistent deployment.
- Executed the full SDLC process from **Agile planning** to implementation, delivering a responsive user interface using **React and TypeScript**.

ETL University Project | Advanced Database Courses

- Architected a complete **ETL pipeline** and **Star Schema** warehouse using **Apache Airflow** and **MinIO** to orchestrate data workflows from source to storage.
- Deployed **Apache Superset** for analytics visualization and containerized the entire Python-based infrastructure using **Docker**.

APAP MEDIKA | APAP Courses

- Developed a medical workflow system with **Spring Boot** and **Vue.js**, implementing **CI/CD** pipelines via **GitLab**.

Recommendica | MLH Global Hack Week AI/ML Submission | [Github Backend] [Github Frontend] [Devpost]

- Developed a RAG-based API using **Django REST Framework** and **LangChain** to recommend research papers from the **ArXiv dataset**, utilizing **FAISS** for vector retrieval and **OpenAI** for processing and **OpenAPI** for documentation.

Ecofriendly Recipe Recommender | Nova Hacks III Submission | [Github] [Devpost]

- Created a RAG-based recipe recommender using LangChain, FAISS, and Django REST Framework.

Endorbit | Build Your Own AI Chat Bot Submission [Github] [Devpost]

- Built an e-commerce chatbot recommending products from Flipkart datasets using LangChain and OpenAI.

ACHIEVEMENT & AWARDS

Mockathon 3.0 Hackathon Winner 1st

What in the world Android Application

- Developed an Android application using Java and XML.
- Integrated a Countries API to provide information about any country.
- Achieved 1st place among 50 participants.

TECHNICAL SKILLS

- **Languages:** Python, Go, TypeScript, Java, SQL.
- **Frameworks:** Django, FastAPI, React, Next.js, Flutter, Spring Boot.
- **AI/ML:** PyTorch, LangChain, RAG, OpenAI API, HuggingFace, Gemini.
- **Tools:** Docker, Kubernetes, Git, PostgreSQL, Firebase, AWS