

Thirza Ahmad Tsaqif

Jakarta, Indonesia | (+62)81290765711 | thirzahmad@gmail.com | [Linkedin](#) | [Github](#) | [Website](#)

Driven and self-motivated Information Systems student at the University of Indonesia with a passion for programming and design. A creative thinker with a strong work ethic, eager to tackle challenges and continuously enhance technical skills in innovative environments.

EDUCATIONAL BACKGROUND

Information System | Bachelor of Computer Science | Universitas Indonesia, Depok, Indonesia
September 2022 - Present

SMAN 109 Jakarta | Jakarta, Indonesia
July 2019 - July 2022

EXPERIENCES

Software Engineer, Internship | OPPO Manufacturing Indonesia

June 2025 - Present

- Developed a AI Agent about company 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 segmentation 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 Nutraceutics

February 2025 - May 2025

- Developed an **AI-powered** Dosage Recommendation System, creating a new system for the organization, enabling **data-driven** dosage recommendations using **OpenAI** and **FAISS**.
- Built a secure API with **FastAPI**, incorporating **JWT authentication** for access control.
- Integrated a **Django-based frontend** with **FastAPI backend** services to ensure seamless system functionality.

Backend Developer, Internship | Avatar Digital

April 2025 - May 2025

- Developed and maintained a shipment and admin backend system using **Golang** with the **Labstack Echo** framework, and **MariaDB/MySQL** as the database.
- Utilized **Docker** for containerization and **GitHub Actions** for CI/CD automation

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

September 2024 -December 2024

- Created lab assignments related to **Linked Lists**, ensuring minimal revisions during student execution.
- Designed programming tasks related to **Graphs**, achieving minimal revisions during student work.
- Provided assistance to students before midterms (UTS) and final exams (UAS).
- Conducted **programming task demonstrations**, providing feedback on peer students' code and engaging in Q&A sessions to clarify assignment details.

Developer Staff, Multimedia Department | BEM Universitas Indonesia

March 2024 - December 2024

BEM Universitas is an University organization to accommodate student interests.

- Development and Responsible for the BEM UI **Integrated Information Systems (SIT) website**, leveraging **Django Python** for a robust backend and crafting a responsive frontend with **HTML and CSS**.
- Developed and maintained the BEM UI **Integrated Information Systems (SIT) website**, utilizing **Firebase for authentication and database** management.
- Deployed the SIT system on **Railway and Firebase**, ensuring high availability and scalability.
- Developed a **LINE Messaging API (LINE bot)** for mail and publication, enabling staff to access features directly from the LINE app, improving communication and accessibility.

Backend Staff | BEM Faculty of Computer Science UI

March 2023 - December 2023

BEM Fasilkom is an Organization inside the Faculty to accommodate student interests.

- Maintained and updated the backend of the BEM Fasilkom UI website to ensure code stability and reliability, supporting all BEM Faculty staff and students.
- Built and implemented new models based on the redesigned website, improving user experience and functionality, utilizing **Django Python and Go**.
- Developed APIs according to established **API contracts**, ensuring seamless integration with other systems with tested and developed with Postman.
- Adhered to **GitHub and organizational coding standards**, ensuring clean, maintainable code with **Sonarcube**..
- Developed and maintained critical modules like LPJ Online, Best Staff, Scholarship, and Recruitment websites, enhancing organizational efficiency and student engagement.

Mentor & Visual Design Staff | DDP - 0

June 2023 - July 2023

DDP-0 is an mentoring event to introduce code and faculty to new students.

- Facilitated a **mentoring** program aimed at introducing first-year students to coding and faculty resources.
- Provided foundational **Python programming** instruction to new students, enhancing their initial learning experience.
- Developed comprehensive and visually engaging presentation materials used for learning sessions using **Figma**.

- Created dynamic and informative feed designs to promote event schedules, updates, and key information using **Figma**.

Visual Design Staff | PERAK

March 2023 - September 2023

PERAK is a sports events within the faculty to support sports interest in students.

- Designed visually appealing posters to promote sports competitions with **Figma**.
 - Adapted designs for various formats including Instagram feed, row format, traditional posters, Line, and Facebook posts.
 - Maintained open communication with the team to ensure alignment with event goals and branding guidelines.
-

PROJECTS

Integrated Information Systems (SIT) | BEM UI

- Developed and maintained a comprehensive website that managed BEM UI's affairs—social media publications, financial processes (reimbursement and income/expenditure), and partnership/sponsorship documentation—improving operational efficiency.
- Implemented the system using the **Django Framework** with **Firebase**, streamlining functionality and authentication processes for enhancement in user access speed and security.
- Deployed the project on Railway.
- Developed and maintained a **LINE Messaging API** to facilitate organizational mail and publication tasks, reducing communication delays and enabling direct access to features, benefiting over **200** active users.

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 **RAG-based** website that retrieves content from a provided URL or file and generates responses based on user prompts.
- Built the backend using **Django REST Framework** and the frontend with **Vite, React, TypeScript**, and **Tailwind CSS**
- Implemented **LangChain** as the **RAG pipeline** for efficient retrieval-augmented generation.
- Integrated multiple generative AI models, including **OpenAI, Claude**, and **Mistral**, to enhance response quality.

API LPJ Online | BEM Fasilkom UI

- Developed a robust **website API** to manage programs and reports for BEM Fasilkom UI, reducing manual processing time and increasing data accessibility for over 200 users.
- Utilized **Django REST Framework** and **PostgreSQL**, enhancing data handling efficiency and scalability, and achieving a query response time improvement
- Ensured strict adherence to the API Contract, resulting in a seamless integration with existing systems and a 100% compatibility rate to Frontend application.
- Implemented **SonarQube** for continuous code quality monitoring.

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

- Developed a cross-platform desktop application enabling seamless multi-LLM chat that is **Gemini, Claude, Open AI GPT**, and **Mistral**.
- Backend involved designing and deploying a scalable API using **Django REST Framework**, **Python**, and **PostgreSQL**, hosted on **DigitalOcean**.
- Desktop application was built with **Electron, React**, and **TypeScript**, ensuring a smooth user experience across different **LLM models**.

Best Staff Voting Website API | BEM Fasilkom UI

- Designed a website for staff voting to recognize the Best Staff among BEM Fasilkom UI members.
- Developed using **Django REST Framework** for robust API functionality.
- Ensured adherence to comprehensive API Documentation and contract standards, resulting in streamlined integration with the frontend.

APAP MEDIKA | APAP Courses

- Developed a website for Medical Workflow, including appointment scheduling, prescription management, and other features.
- Built the API using Spring Boot and set up a **CI/CD** pipeline in **GitLab** with **Docker** for deployment on Ubuntu.
- Developed the frontend using **Vue** with **TypeScript** and **Tailwind CSS**.

Knowlxcircle Application | Gemini API Developer Competition Submission [Github Backend] [Github Frontend]

- Designed and developed Knowlxcircle, a versatile crowdsourced learning platform, enhancing collaborative learning circles
- Integrating **Google Generative AI** with the Application as a Automatic Article Creator and Chatbot
- Implemented the backend API using **Django REST Framework** and **PostgreSQL**.
- Built a modern web interface using **TypeScript** and **Tailwind CSS**.
- Deployed the backend on **Azure Cloud Services** and the frontend on **Vercel**, Improvement in application scalability and load time, ensuring a swift and reliable user experience.

Gemini Japanese | MLH GWH Submission [Github Backend] [Github Frontend] [Devpost]

- Developed a Japanese translation application that provides users with both romaji and translations by integrating the **Gemini AI API**, increasing translation accuracy with any japanese format.
- Utilized **React** with **TypeScript** for the frontend to create a dynamic and intuitive user interface,
- Implemented the backend using a **TypeScript** server, ensuring efficient data processing. Utilizing **AWS Amplify** as a deployment platform.

Canva Copywriting Extensions | Canva Integration Apps Hackathon Submission [Github Backend] [Github Frontend] [Devpost]

- Developed an innovative **Canva extension** leveraging AI algorithms to assist users in generating high-quality copywriting
- Created a Canva Extensions using **Gemini AI** that will create Copywriting for design and using **Typescript**

LiteralStoryboard | AWS Game Builder Hackathon Submission [Github Backend] [Github Frontend] [Devpost]

- Created a game website that combines board game and story.
- Developed using **Vite React Typescript** and **Tailwind CSS** and utilizing **Gemini API** as the story generator and

- Utilized **AWS Amplify** as deployment platform.

Recipe Recommender | RAG 'n' ROLL Amp up Search with Snowflake & Mistral Submission [Github Backend] [Github Frontend] [Devpost]

- Created a website that will recommend 5 food recipes based on user time.
- Using Cookpad as data source with **Scrapping** and utilizing **Streamlit** as front-end.
- Utilizing **RAG** and **Snowflake Cortex Search** and Using **Mistral AI** as the AI backbone for the website.

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

- Developed a Research Recommendation **RAG-based API** using the ArXiv dataset, with **FAISS** for retrieval and **OpenAI** for AI processing and Langchain as the pipeline.
- Utilized **OpenAPI** for documentation and Built the API with **Django REST Framework**.

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

- Developed an eco-friendly recipe recommender utilizing **RAG** with a **LangChain** pipeline, **FAISS**, and OpenAI.
- Built the frontend with **Vite, React, TypeScript**, and **Tailwind CSS**.
- Developed the backend using **Django REST Framework**.

Wikipedia-based Hybrid RAG | GraphRAG & NVIDIA cuGraph Submission | [Github Backend] [Github Frontend] [Devpost]

- Developed an idea for integrating **GraphRAG** with **VectorRAG** using **LangChain, FAISS, NetworkX, cuGraph**, and **ArangoDB**, leveraging Wikipedia navigation path data.
- Implemented the concept in a **Colab notebook**.

Dosage Recommender | Replenish Nutraceuticals

- Developed a dosage recommender system based on dosage data with **OpenAI GPT**
- Developed with **FastAPI** utilizing **JWT Authentication**
- Integrating the dosage data from **Airtable** to the **FastAPI**
- Integrating the API with **Django** based frontend

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

- Developed an **e-commerce chatbot** that recommends products based on user prompts.
- Utilized the **Flipkart products dataset** with **LangChain, FAISS, and OpenAI** for recommendations.
- Built the backend with **Django REST Framework** and the frontend using **Vite, React, TypeScript, and Tailwind CSS**.

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

Python :

- Earned multiple certificates including FreeCodeCamp's Python, Scientific Computing with Python, Data Analysis, Machine Learning and College Algebra with Python. Additionally, obtained Python Essential 1 and 2 certifications from Cisco Skills for All. Achieved Gold level on HackerRank.
- Developed backend systems for BEM Fasilkom UI using Django. Using Django Python for develop BEM UI Integrated Information Systems (SIT).
- Demonstrated backend development expertise by implementing Django in personal projects like JobList, HowtoInstallCode, and Knowlxcircle, delivering robust and scalable solutions.

Go :

- Leveraged Go with PostgreSQL to create a robust recruitment website for BEM Fasilkom UI, demonstrating efficiency and scalability.

SQL :

- Utilized PostgreSQL for BEM Fasilkom UI's website and excelled in the final project of the Database course.
- Solved 50 SQL challenges on LeetCode, highlighting problem-solving skills and SQL expertise.

Javascript :

- Earned the Full Stack Open Certificate, utilizing MongoDB and Express for backend development and React Javascript and tailwind for frontend development demonstrating full-stack proficiency.
- Completed JavaScript Essential 1 and 2 courses from Cisco Skills for All, solidifying foundational and advanced JavaScript skills.
- Achieved FreeCodeCamp's Backend and API certificate by using Express and MongoDB , showcasing expertise in building APIs and server-side applications.
- Achieved FreeCodeCamp certificates in JavaScript Algorithms and Data Structures, Front End Development Libraries using React.js, and Data Visualization using D3.

Firebase :

- Implemented Firebase authentication and database solutions for BEM UI Integrated Information Systems, enhancing user management and data security.

MongoDB :

- Demonstrated proficiency in NoSQL databases by implementing MongoDB (Mongoose) for projects from both the Full Stack Open and FreeCodeCamp courses.

CI/CD :

- Mastered continuous integration and continuous deployment practices using GitHub Actions for university courses and the Full Stack Open course.
- Deployed APIs and websites on platforms like Railway, Domcloud, Microsoft Azure, and Cloudflare, ensuring reliable and scalable deployment solutions.

Typescript :

- Earned the Full Stack Open Typescript Certificate, utilizing MongoDB and Express for backend development and React Typescript and tailwind demonstrating full-stack proficiency.

Flutter :

- Acquiring Flutter framework and Dart knowledge through university courses and self-study using the Flutter Apprentice (2nd edition), Flutter for Dummies, and Flutter Projects books.
 - Developed various Flutter projects, including a Movie API application, a Result Summary component design from Frontend Mentor, and a book library application featuring authentication and API consumption, showcasing a strong understanding of cross-platform mobile app development.
-

SOFT SKILLS

- Time Management : ability to use time wisely and efficiently.
- Collaboration : ability to work effectively in a group.
- Ability to work independently.