

# Radithya Fawwaz Aydin

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## SUMMARY

Final-year Information Technology student with strong proficiency in Python and Machine Learning, specifically in NLP and LLM contexts. Experienced in data validation, preprocessing, and project management. Eager to contribute to high-quality data pipelines for AI model development.

## ORGANIZATION & WORK EXPERIENCES

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### PT. FSCM MANUFACTURING INDONESIA

IT Project Manager Intern (February – August 2025)

- Analyzed procurement processes and identified bottlenecks in supplier scheduling that caused warehouse inefficiencies.
- Managed data validation processes to ensure inventory reliability and visibility for the Procurement team by integrating Google Cloud API for automated workflows.
- Improved efficiency and inventory data visibility (inventory reliability) for the Procurement team by integrating Google Cloud API for automated workflows.
- Produced comprehensive technical documentation to support user adoption and long-term operational efficiency.

### CODING CAMP POWERED BY DBS FOUNDATION

Machine Learning Engineer Cohort (February – July 2025)

- Completed a structured curriculum covering Python fundamentals, data preprocessing, and applied machine learning.
- Contributed to the capstone project “We’re Cooked,” developing and deploying a product (recipe recommendation system) on the Hugging Face API.
- Strengthened collaboration, communication, and problem-solving skills in a cross-functional team environment through mentoring sessions and group projects.

### ID/X PARTNERS X RAKAMIN ACADEMY

Project-Based Virtual Intern: Data Scientist (January – February 2025)

- Analyzed large datasets to identify trends and behavioral patterns using data wrangling techniques.
- Developed deep learning models for predictive analysis to support data-driven business decision-making and risk analysis.
- Formulated actionable recommendations based on data findings to assist stakeholders.

## BEM FILKOM UB 2024

Ministry of Creative Economic (January - December 2024)

- Managed the entrepreneurship program lifecycle (FILKOMPRENEUR, etc.), from ideation and strategic planning to event execution.
- Led a cross-functional team, managing project timelines, delegating tasks, and motivating the team to achieve collective goals.
- Built and maintained collaborations with external stakeholders (speakers, partners) to ensure program success.
- Organized training sessions to develop product skills (branding, marketing) for student entrepreneurs.

Staff of Creative Economic Ministry (March - November 2023)

- Establish collaborations with companies for academic-related initiatives.
- Oversee clothing sales to generate profit and gain experience in buying and selling.
- Manage partnerships and sales processes, from outreach to transaction handling.

## PROJECT EXPERIENCES

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### We're Cooked - Smart Recipe Recommendation System | Team Project

This project aimed to build an AI-powered web application to reduce food waste and solve the daily "what to cook" dilemma by recommending recipes based on ingredients users already have at home.

- **Objective:** To address the issue of food waste and decision fatigue by developing a hybrid recommendation system that personalizes recipe suggestions based on user inventory and preferences.
- **Methodology:**
  - Models: Engineered a Hybrid Filtering system combining Content-Based Filtering (using TF-IDF Vectorizer and Cosine Similarity) and Collaborative Filtering (using TensorFlow and Keras) to ensure accurate recommendations.
  - Data Preprocessing: Performed extensive text normalization and missing value imputation to clean and prepare the recipe dataset.
  - Deployment: The trained model was serialized and deployed to Hugging Face as an inference API endpoint , enabling real-time integration with the React.js and Node.js web architecture.
- **Outcome:** Successfully delivered a functional web application that effectively solves the user "cold-start" problem and provides real-time recipe matching, demonstrating the practical application of AI in promoting sustainable food consumption.
- **Project Link:** <https://github.com/werecooked2025>

### Hybrid Retrieval-Augmented Generation (RAG) System | Undergraduate Thesis

This project focused on developing an advanced Large Language Model (LLM) pipeline that integrates Knowledge Graphs with Vector Databases to minimize hallucinations and enhance context retrieval. The goal was to improve the accuracy of generative AI responses in specialized domains.

- **Objective:** To address limitations in standard retrieval systems by engineering a Hybrid RAG architecture that combines structured (Graph) and unstructured (Vector) data to ensure high-fidelity context for LLM generation.
- **Methodology:**
  - **Architecture:** Engineered a Hybrid RAG system leveraging LangChain for orchestration, Neo4j for Knowledge Graph relationships, and vector embeddings to capture semantic meaning.
  - **Data Preprocessing:** Performed extensive text data cleaning, normalization, and validation to ensure high-quality input for NLP models (TF-IDF), directly improving recommendation accuracy and mitigating data noise.
  - **Evaluation:** The system was evaluated using RAGAS metrics (Faithfulness, Answer Relevance) and human validation to ensure the retrieved context aligned accurately with the generative output. Outcome: Successfully demonstrated that the Hybrid approach significantly reduced hallucinations compared to a baseline Vector-only RAG, ensuring more reliable and factually accurate generative outputs for user queries.
- **Project Link:** <https://github.com/wingscode123/skripsi-rag-hotpotqa>

## EDUCATION

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### UNIVERSITAS BRAWIJAYA (2022 - CURRENT)

Bachelor Degree of Information Technology – GPA 3.67/4.00 | Concentration: Linguistics

- **Course Works:** Kecerdasan Buatan dan Pembelajaran Mesin, Data Sains, Implementasi dan Evaluasi Sistem Informasi, Administrasi Basis Data, Data Warehouse.

### SMAIT AS-SYIFA BOARDING SCHOOL (2019 - 2022)

SCIENCE – GPA 87.5/100

## SKILLS & TRAININGS

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- **Soft Skills:** Decision-Making, Problem Analytic, Team Management, Effective Communication.
- **Hard Skills:** Python, TensorFlow, PyTorch, Scikit-learn, Pandas, NLTK, Google Colab, Jupyter Notebook, SQL, Data Visualization (Google Looker).
- **Certification**
  - Certificate of Completion: Data Analysis FULLSTACK INTENSIVE BOOTCAMP (MySkill)
  - Sertifikat Kompetensi Kelulusan - Membangun Sistem Machine Learning (Dicoding)
  - Sertifikat Kompetensi Kelulusan - Belajar Pengembangan Machine Learning (Dicoding)
  - Data Classification and Summarization Using IBM Granite (IBM)
  - Sertifikat Kompetensi Kelulusan - Dasar Visualisasi Data (Dicoding)