MUHAMMAD HILAL DARUL FAUZAN

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My personal vision is to contribute meaningfully to the advancement of technology by primarily leveraging software engineering principles alongside data science to solve real-world problems and create innovative solutions. I am passionate about designing and building scalable, robust software systems that integrate analytical insights from data. With a strong foundation in software development, data analysis, machine learning, and programming, I aspire to develop tools and applications that optimize processes, enhance decision-making, and improve lives by combining solid engineering practices with technical expertise.

EDUCATION

Universitas Indonesia July 2022 - Now
S1 • Ilmu Komputer • IPK: 3.65

ORGANIZATIONAL EXPERIENCES

Teaching Assistant of Calculus 2 August 2024 – January 2025
Faculty of Computer Science, Universitas Indonesia • Part Time

Staff of IT & Broadcast June 2024 – August 2024
OKK UI
Worked on the frontend side of the OKK UI 2024 website using React and Tailwind

Staff of Editorial Marketing April 2023 – November 2023
COMPFEST

- Creating and publishing press releases for the Grand Launching of COMPFEST 15.
- Conducting interviews with speakers at the Grand Launching of COMPFEST 15.
- Providing captioning, proofreading, translating, and copywriting services for COMPFEST publications, resulting in thousands of insights across various social media platforms.

PROJECTS

MAAMS
MAAMS is an application that identifies the root causes of issues and offers fundamental solutions, focusing on restoration rather than repetition. Using AI models like DeepSeek R1 and a prompt system, it validates problem causes entered by users. Developed with Scrum in collaboration with FISIP UI, MAAMS supports the Philosophy of Communication course by analyzing and confirming communication-related problems.

Natural Language Inference
Developed a deep learning model for Natural Language Inference (NLI) to classify relationships between premise and hypothesis as entailment, contradiction, or neutral. Using custom-built architectures with pre-trained DeBERTa V3 model in PyTorch, trained from scratch on Indonesian and English data. Performance was evaluated with F1 Score to balance precision and recall.

Lembarpena
Web and mobile application project with a literacy community theme, created using Django and Flutter. It connects readers and authors, offering book purchasing, discussion forums, and a wishlist feature. It received The Best Web Application Award.

Marmut Music Web App
Web application project with a concept similar to Spotify, offering streaming of music and podcasts, detailed content information, and features like premium subscriptions, playlists, and charts. Users can register, stream, download songs, and the system tracks usage for royalty payments to artists, songwriters, and labels.

HoomGroom
HoomGroom is a web-based platform for exploring a catalog of furniture products, similar to IKEA. Users can browse products, manage their cart, top up their balance, complete transactions, and track shipping. Built with Java Spring Boot as the backend and TypeScript for the frontend, it delivers a seamless and interactive user experience for furniture shopping.

Mario Object Detection
Develops an object detection system using YOLO v11 to accurately and efficiently detect Mario characters in video datasets. It addresses real-world challenges like lighting variability, angles, and complex backgrounds. The system is evaluated on accuracy and processing speed, providing insights into implementing and optimizing YOLO for dynamic visual data.

Health Admission Prediction
Predict health admissions and patient outcomes using the admission.csv dataset. This project includes exploratory data analysis to identify patient traits and disease trends, such as peak admission periods and disease patterns by age and smoking status. It also builds classification models to predict outcomes (discharge, against medical advice, or expiry), regression models for ICU stay duration, and clustering models to group patients by characteristics. The goal is to support medical decisions, optimize hospital resources, and enhance healthcare quality.

Food Recipes
A recipe search app featuring Indonesian and international cuisines. Users can search by cuisine type, main ingredients, or categories, with detailed recipe info displayed upon selection. The app uses two recipe datasets transformed into a Knowledge Graph via RDF (OpenRefine) and ontology (Protégé). Local data was enriched with external sources for comprehensive user information.

SKILLS

Hard Skills : Python, Java, JavaScript, TypeScript, Next.js, SQL

Soft Skills : Problem solving, Analytical, Communication, Team Work