MUHAMMAD HILAL DARUL FAUZAN

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Final year computer science student at the Universitas Indonesia with hands-on experience in software engineering and AI/ML projects, and proven leadership roles in multiple organizations. Proficient in software engineering tools, passionate about crafting innovative design solutions, and eager to gain valuable experience. I am passionate about designing and building scalable, robust software systems that integrate analytical insights from data. With a strong foundation in software development, 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 - Depok, Indonesia

August 2022 - July 2026 (Expected)

Bachelor of Computer Science | 3.52/4.00

• Courseworks: Software Engineering Project, Web Design & Development, Data Structures & Algorithms, Human Computer Interaction, Database, Deep Learning, Computer Vision SMA Negeri 1 Jakarta - Jakarta Pusat, Indonesia

July 2019 - May 2022

Mathematic and Natural Science | 90.57/100

- Participated in the National Science Olympiad in Astronomy at the provincial-level (Jakarta) and ranked in 6th place
- Became a top 10 outstanding student in the school
- Developed strong analytical and scientific research skills

WORK AND ORGANIZATIONAL EXPERIENCES

Universitas Indonesia - Depok, Indonesia

Teaching Assistant of Calculus 2

August - December 2024

- Provided one-on-one tutoring for over 40 undergraduate students, helping them understand complex calculus concepts
- Assisted in grading and providing feedback on homework assignments, ensuring clarity and consistency in assessment
 Helped in preparing course materials, including practice problems for exam preparation

Staff of IT & Broadcast • OKK UI 2024

June - August 2024

- Designed engaging and user-friendly interfaces to enhance user experience
- Developed responsive frontend components and pages using React and Tailwind CSS for the official OKK UI website
- Contributed to the development of a website used by thousands of new students at Universitas Indonesia in 2024 for orientation and university-related information

Staff of Editorial Marketing • COMPFEST 15

April - November 2023

- Provided captioning, proofreading, translating, and copywriting services for COMPFEST publications, resulting in thousands of insights across various social media platforms
- Created and published press releases for the Grand Launching of COMPFEST 15
- Conducted interviews with speakers at the Grand Launching of COMPFEST 15

PROJECTS

MAAMS (2025)

- A NextJS and Django website app for a software engineering project course with a team of 7 individuals, a root cause validator using DeepSeek R1 model
- Served as a full-stack developer for 4 sprints, managing action items, backlogs, acceptance criteria, and developed authentication and validator features
- Developed with Scrum in collaboration with FISIP UI and supported the Philosophy of Communication course by analyzing and confirming communication-related problems

Apap Medika (2025)

- Developed a hospital management system featuring 6 microservices: Profile, Appointment, Hospitalization, Pharmacy, Insurance, and Bill services
- Designed the entire app as a UI designer, created the design system from scratch, and defined user flows
- Implemented JWT-based authentication with OAuth integration and role-based access control supporting 5 different roles
- Developed complex business including appointment scheduling, reservations, pharmacy inventory, insurance policy management, and integrated billing with payment tracking

Database Backup Utility (2025)

- Built a CLI tool in Go for automated database backup/restore supporting MySQL, PostgreSQL, MongoDB, and SQLite
- Implemented multi-cloud storage (AWS S3, GCS, Azure) with compression, encryption, and retention policies
- Developed a modular architecture with Docker, Slack notifications, and scheduled workflows

CrawlKit API (2025)

- Built a REST API for intelligent web scraping and data extraction, featuring robots.txt compliance, concurrent crawling, and real-time analytics dashboard
- The system used BeautifulSoup for HTML parsing with advanced CSS selectors
- Implemented ethical crawling practices with automatic delays and rate limiting, provided reporting capabilities for data quality monitoring

Natural Language Inference (2025)

- Developed a deep learning model for NLI to classify relationships between premise and hypothesis as entailment, contradiction, or neutral
- Used custom-built architectures with the pre-trained DeBERTa V3 model in PyTorch, trained from scratch on Indonesian and English data

Mario Object Detection (2024)

- Developed an object detection system using YOLO v11 to accurately and efficiently detect Mario characters in video datasets
- Addressed real-world challenges like lighting variability, angles, and complex backgrounds

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- The system was evaluated on accuracy and processing speed, providing insights into implementing and optimizing YOLO for dynamic visual data

HoomGroom (2024)

- A web-based platform for exploring a catalog of furniture products, similar to IKEA
- Users could browse products, manage their cart, top up their balance, complete transactions, and track shipping

Marmut Music (2024)

- Developed a web application project with a concept similar to Spotify, offering music and podcast streaming along with detailed content information
- Implemented features like premium subscriptions, playlists, and charts to enhance user experience and content discovery
- Integrated a system to track usage for royalty payments to artists, songwriters, and labels, ensuring accurate data processing with SQL queries

Health Admission Prediction (2024)

- Conducted exploratory data analysis to identify patient traits and disease trends, including peak admission periods and disease patterns by age and smoking status
- Built classification models to predict patient outcomes and regression models to estimate ICU stay duration
- Developed clustering models to group patients, aiming to support medical decisions, optimize hospital resources, and enhance healthcare quality

LembarPena (2023) - Best Web Application Award of Platform Based Programming Course 2023

- A web and mobile application project with a literacy community theme, created using Django and Flutter
- Connected readers and authors, offering book purchasing, discussion forums, and a wishlist feature
 Designed the entire app as a UI designer, created the design system from scratch, and defined user flows
- AWARDS

Kompetisi Sains Nasional (2020)

6th Place in the Provincial-level National Science Olympiad in Astronomy

Primagama Mencari Juara (2017)

• 1st Place and Gold Medalist in Mathematics, Provincial-level Jakarta

CERTIFICATIONS AND LICENCES

Google (2025)

Google Digital Marketing & E-commerce

Udemy (2023)

- The Complete 2023 Web Development Bootcamp
- Java Data Structures and Algorithms Masterclass
- Java Programming Masterclass updated to Java 17
- 100 Days of Code: The Complete Python Pro Bootcamp for 2023

Sololearn (2023)

JavaScript Intermediate

SKILLS AND TOOLS

Python, Java, Go, Flutter, TypeScript, JavaScript, Next.js, React.js, Vue.js, Tailwind CSS, Spring Boot, Django, Fast API, Flask, PostgreSQL, MongoDB, Google Cloud, Docker, Git, Figma, UI/UX Design, PyTorch, TensorFlow