MUHAMMAD FARREL WIBOWO

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3rd-year Informatics Engineering student at Institut Teknologi Bandung with a specialization in **Artificial Intelligence** and **Full-Stack Web Development.** Award-winning developer with 1st and 3rd place finishes in national hackathons, recognized for building high-performing software and AI-integrated digital solutions.

EDUCATION

Institut Teknologi Bandung Aug 2023 – Jul 2027 (expected)
Undergraduate Bachelor of Engineering. Majoring in Informatics Engineering.

- Software Engineering
- Software Development
- Web Development
- Algorithm Strategies
- UX Design
- Database development and management
- Object Oriented Programming
- Software Project Management

ORGANIZATIONAL EXPERIENCES

Society of Techno Entrepreneur Club (TEC) ITB
Associate of Information and Technology Nov 2024 – Nov 2025

- Guided TEC members through a structured Data Science learning program using Coursera. Designed and implemented a final project assignment to assess participants' understanding and ensure the success and impact of the program.

Society of ITB JAZZ
Kroyokeanjes Head of Operations Sep 2024 – Feb 2025

- Led a team of 20+ members in executing the operational aspects of Kroyokeanjes. Supervised and coordinated the Logistics and Transportation divisions to ensure timely and efficient program delivery.

Himpunan Mahasiswa Informatika
Staff of Capital Catalyst July 2025 – present

- Currently planning the development of an e-commerce website to sell official merchandise and digital products.

Parade Wisuda Oktober 2023
Staff of Information and Technology Division Aug 2023 - Oct 2023

- Assisted in developing ITB's October Graduation website by implementing back-end features using TypeScript, primarily focused on handling and managing committee data input to support event operations.

PROJECTS

PAKTA: AI-Integrated CLM Platform | 3rd Place Winner, UNPAD IFEST 2025 Hackathon
Developed an AI-integrated Contract Lifecycle Management (CLM) platform within a 24-hour sprint. Implemented **RAG-based AI** tailored to Indonesian law for automated risk assessment and integrated an AI drafting assistant for standardized document generation. (https://github.com/faawibowo/PAKTA)

Sentinel: AI-Driven Stunting Mitigation & Predictive Platform | 1st Place Winner, DINACOM 11.0 2026 Hackathon Developed Next.js website that use **KNN classification model** to identify stunting risks from neonatal data. Deployed the model as a scalable API via Docker, HuggingFace and integrated a WhatsApp API to automate predictive alerts for parents. (https://github.com/faawibowo/dinacom-steikon)

Votely: Decentralized E-Voting Platform with AI Biometrics Built a decentralized e-voting system using **Solidity smart contracts** on the Sepolia Testnet with real-time biometric authentication via MediaPipe and TensorFlow. (https://github.com/faawibowo/votely-platform)

Nimonspedia : E-commerce platform Built a hybrid E-commerce platform integrating legacy PHP MVC with Node.js backend and React SPA to support real-time features for **live Auction System** and **WebSocket**-based bidding infrastructure.
(https://github.com/faawibowo/Nimonspedia---E-Commerce---tugas-besar-if-3110-web-based-development-k03-06)

Gopher: Little Alchemy Element Finder & Web Scraper Developed **Web Scraper** in **Go** to automate the extraction and data collection from external web sources. A solver for element discovery by implementing **DFS** and **BFS** algorithms to identify the most efficient combination paths. (https://github.com/faawibowo/Tubes2_Gopher)

Rush Hour Puzzle Solver: Multi-Algorithm Pathfinding Exploration a Java solver for the Rush Hour sliding block puzzle by implementing and comparing **Uniform Cost Search, Greedy Best First Search, and *A Search**** algorithms to find the optimal sequence of moves. (https://github.com/faawibowo/Tucil3_RushHour)

Scholar Classifier implements three classification algorithms from scratch: I**D3 Decision Tree, Logistic Regression, and SVM**. All models are built manually without any machine learning libraries. (https://github.com/faawibowo/scholar-classifier)

Automatic Class Scheduler with Local Search Developed a Python-based engine that optimizes academic timetables using Local Search like **Hill-Climbing, Simulated Annealing, and Genetic Algorithms** from scratch**.** Resolves complex resource constraints to ensure conflict-free scheduling for rooms and lecturers.(https://github.com/faawibowo/tubes1-ai)

SKILLS & EXPERIENCES

- **Programming & Databases:** Python, C/C++, C#, Java, JavaScript, TypeScript, Go, PHP, HTML/CSS, Haskell, Prolog, Solidity; MariaDB, PostgreSQL, MySQL.
- **Frameworks, AI & Libraries:** React, Next.js, TailwindCSS, JavaFX, Prisma ORM, Pandas, Flet, Langchain, Gemini API, Hugging Face, MediaPipe, TensorFlow, Flask, FastAPI, REST APIs.
- **Tools & Infrastructure:** Git (GitHub/GitLab), Docker, Postman, Cisco Packet Tracer, AWS, Vercel, CloudFlare.
- **Soft Skills:** Communication, Leadership, Management, Reliability, Production, Deployment, Testing, Distributed Systems, Observability, CI/CD, Product Engineering, Product Management, Product Strategy.