MUHAMMAD TIMUR KANIGARA

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Fourth-year Informatics Engineering student at Institut Teknologi Bandung with hands-on experience in AI-powered applications, data processing, and software development. Experienced in developing Python-based analytics workflows, integrating AI-generated insights, and implementing machine learning algorithms from scratch. Strong foundation in neural networks, model evaluation, and data-driven problem-solving, with an interest in building practical AI solutions.

Education Level

Institut Teknologi Bandung - **Bandung, Indonesia** Aug 2023 - Aug 2027 (Expected)

Bachelor of Informatics Engineering, 3.39/4.00

Work & Academic Experiences

MAI - **Jakarta** May 2026 - Nov 2026

AI Software Engineer

- Developed an end-to-end analytics platform supporting 10+ client accounts, integrating data ingestion, processing, and automated reporting workflows.
- Built Python-based data pipelines using FastAPI, PostgreSQL, and SQLAlchemy to process data from CSV uploads and synchronized external APIs.
- Implemented configurable KPI analytics and data correction workflows to support accurate, customizable performance analysis.
- Integrated AI-powered insights and recommendations into automated client reporting, delivering analytics results through a React.js-based application.

Computational Thinking Course - **Bandung** Sep 2025 - Dec 2025

Practicum Assistant

Supervised and facilitated practicum sessions for approximately 70 students, ensuring smooth execution of hands-on computational thinking exercises. Responsibilities included monitoring student progress during labs, evaluating and grading assignments, and providing timely academic support by answering questions and clarifying course concepts. Contributed to maintaining an interactive and supportive learning environment throughout the practicum.

Socio-Informatics and Professionalism Course - **Bandung** Sep 2025 - Dec 2025

Teaching Assistant

Support the lead professor in delivering a core course on IT ethics, society, and professionalism for 100+ students. Responsibilities include evaluating and providing constructive feedback on student assignments, administering examinations, and upholding academic integrity. Additionally, assist in managing course logistics and providing academic support to students during tutorial sessions.

Projects

Feedforward Neural Network (FFNN) Implementation - **Python, NumPy, Scikit-learn**

- Implemented a Feedforward Neural Network and Adam optimizer from scratch using Python and NumPy for classification tasks.
- Evaluated model performance across different network architectures, activation functions, learning rates, and L1/L2 regularization.
- Benchmarked the custom implementation against Scikit-learn's MLPClassifier to compare classification performance across multiple configurations.

Automated Resume Screening (CV ATS) Application - **Python, MySQL, PyQt5**

- Developed a desktop-based resume screening application to automate candidate information extraction and keyword-based filtering.
- Implemented KMP and Boyer-Moore string-matching algorithms for efficient keyword identification and text processing.
- Integrated PyMuPDF for PDF parsing and MySQL for structured candidate data storage.

Nimonspedia E-Commerce Platform - **PHP, PostgreSQL, Docker**

- Developed a full-stack e-commerce platform with responsive buyer and seller interfaces, supporting product discovery, search filtering, and store management.
- Designed and integrated PostgreSQL database structures and server-side logic for product catalogs, user profiles, and transaction records.
- Containerized the application using Docker Compose to streamline development and deployment workflows.

Skills

- **Programming Languages**: Python, C/C++, Java, JavaScript, PHP, SQL, Go
- **AI & Data**: Machine Learning, Neural Networks, NumPy, Scikit-learn, Data Analysis, Data Processing
- **Backend & Database**: FastAPI, REST APIs, PostgreSQL, MySQL, SQLAlchemy, JWT, WebSockets
- **Frontend Development**: React.js, HTML5, CSS3, Responsive Web Design, UI/UX Implementation
- **Tools & Core Concept**: Git, Docker, Nginx, Linux, Data Structures & Algorithms, OOP, Operating Systems