Rivaldo Fauzan Robani

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A passionate Informatics Engineering student specializing in data science, artificial intelligence and full-stack development. Professional experience includes a role as a Data Scientist at PT Neural Technologies Indonesia, where I developed an NLP-powered chatbot for Telkomsel using Rasa, LangChain, and Large Language Models like LLaMA. My work has been recognized nationally, securing an incentive grant from the Ministry of Higher Education for research on LLMs in medical diagnosis and winning "The Best Idea" in the IoT category at the National Polytechnic Informatics Student Competition (KMIPN) V. I am eager to leverage these skills in an innovative Data Scientist, AI/ML Engineer or Full-Stack Developer role.

Education Level

Politeknik Negeri Bandung   Aug 2021 - Aug 2025
Bachelor of Applied Science Informatics Engineering
- Relevant Coursework: Web Development, Software Engineering, Data Science, Algorithms, Database Systems, Object-Oriented Programming, Data Analytics, Computer Networks, Enterprise Application Development
- Key Projects: Scientific Application Development, Enterprise Enterprise Application Development Project

SMK Negeri 11 Bandung   July 2018 - June 2021
Software Engineering
- Focus: Web Development using PHP and Laravel & CodeIgniter frameworks
- Relevant Coursework: Web Development, Software Development Lifecycle, Database Management

Working Experience

PT Neural Technologies Indonesia   June 2024 – Oct 2024
Data Scientist
- Developed NISA, a chatbot for monitoring network performance and KPIs for Telkomsel, using Rasa and NLP to process queries in Indonesian.
- Integrated Large Language Models (LLM) like LLaMA and Ollama to handle complex queries and improve chatbot responses.
- Implemented Prophet for time-series forecasting, predicting network payload trends and aiding capacity planning.
- Utilized LangChain to enhance query processing and enable dynamic responses in text, tables, and graphs.
- Created an interactive Streamlit dashboard for visualizing real-time KPI data, supporting quick decision-making.

Projects

Comparative Analysis of LoRA and DoRA for Fine-Tuning Predictive Models   January 2025 – July 2025
Politeknik Negeri Bandung
- This research project conducted a comparative analysis of LoRA and DoRA, two parameter-efficient fine-tuning (PEFT) techniques, to evaluate their performance-to-cost trade-offs on the LLaMA model family for subjective NLP tasks.
- Using the Chatbot Arena dataset, the study systematically evaluated four LLaMA model versions across multiple adapter ranks, measuring log loss, training time, inference speed, and memory consumption.
- The results demonstrated that while DoRA consistently achieved lower log loss for better human preference alignment, LoRA proved to be more efficient with faster convergence times and lower memory usage during training.
- The study concludes that DoRA is a viable option for high-fidelity models where nuanced accuracy is critical, while LoRA is a strong choice for resource-constrained environments, with both methods having a negligible impact on inference performance.

IoT-Based Battery Bank Monitoring System   May 2024 – June 2024
Politeknik Negeri Bandung
- Developed a web application to monitor battery bank systems integrated with IoT sensors in collaboration with PT Kereta Api Indonesia (PERSERO). The website displays real-time sensor data and trends in a dashboard for efficient battery management.
- Technologies: Laravel 10, MySQL, IoT Integration
- Role: Designed and managed the database for storing sensor data, developed the frontend for displaying sensor data and trends in real-time and integrated IoT sensor data with the web application for dynamic updates on battery conditions.
- Achievements: Successfully integrated the IoT system with the Laravel backend, providing real-time monitoring and trend visualization.

Lebakmuncang Tourist Village Website   May 2024
Politeknik Negeri Bandung
- Developed a website to showcase the cultural and tourism diversity of Lebakmuncang Tourist Village. The website highlights the region's attractions and local culture, providing a platform for tourism promotion.
- Technologies: Vue.js and Nuxt.js
- Role: Built the website's frontend using Vue.js and Nuxt.js to create a responsive and interactive user experience, designed and implemented sections displaying cultural landmarks, events, and tourist activities. UI/UX design for a user-friendly interface, ensuring an engaging and accessible experience for visitors.
- Achievements: Successfully launched an informative website that highlights the rich cultural heritage of the village, increasing local tourism awareness.

Multi Technology Food Recipe Application   January 2024 – February 2024
- Developed a food recipe application integrating multiple technologies for both frontend and backend. The project aimed to create teaching materials for implementing diverse technologies.
- Technologies: ExpressJS, ReactJS, PostgreSQL, VueJS, Vuetify, MUI
- Role: Built Login feature using VueJS, developed create form feature with ReactJS and Implemented Recipe Detail feature using VueJS.
- Achievements: Successfully implemented and integrated Login, Create Form, and Recipe Detail features.

Budgeting Recap App (Financial Management Website)   Oct 2023 – Dec 2023
Politeknik Negeri Bandung
- Developed a PWA financial management website to track and manage income and expenses, integrating Express for backend and React for frontend.
- Technologies: ExpressJS, ReactJS, PostgreSQL, PWA
- Role: Created Profile with Dashboard pages with ReactJS and implemented CRUD functionality for income tracking, integrated with the backend.
- Achievements: Successfully integrated frontend with backend, enabling real-time financial data updates, and deployed the app as a Progressive Web App (PWA) for offline use.

Organizational Experience

Badan Eksekutif Mahasiswa Politeknik Negeri Bandung
The Staff of The Cabinet Resource Management Specialized Agency   Apr 2023 – Jan 2024
- Manage and allocate resources for student-led initiatives and activities within the student council.

The Staff of The Communication and Information Department, DKV Division   Mar 2022 – Feb 2023
- Developed visual content and designs for communication and promotional materials for student events.
- Collaborated with other departments to create visual assets for internal and external communications.

Himpunan Mahasiswa Komputer (HIMAKOM)
Deputy Head of The Organization Resource Management Specialized Agency   May 2023 – Dec 2023
- Oversee resource management, ensuring smooth operations within the organization.
- Coordinate with other departments to manage resources effectively for student projects and events.

The Staff of The Department of Research, Technology, and Higher Education Apr 2022 – Mar 2023
- Assisted in organizing research, technology, and academic-related events and activities.
- Supported the development of academic and technological initiatives for students.

Achievements and Awards

Student Creativity Program for Scientific Articles (PKM-AI), Incentive Scheme July 2025
Ministry of Higher Education, Science, and Technology (Kemdiktisaintek)
- I successfully secured an incentive grant from the Ministry of Higher Education, Science, and Technology through the national Student Creativity Program for Scientific Articles (PKM-AI). My funded research, titled "Improving the Interpretability and Efficiency of Large Language Models for Automated Medical Diagnosis Based on Artificial Intelligence," focuses on enhancing how LLMs can be made more efficient and understandable when applied to automated medical diagnostic systems. The project aims to develop more transparent and reliable AI-driven tools to support the healthcare sector.

Finalist National Data Science Tournament Dec 2023
Cybertrend Data Academy
- Developed "Towards Security: Integrating WhatsApp OTP MFA with Fraud Detection Systems (FDS)", an advanced security solution integrating WhatsApp OTP Multi-Factor Authentication with a Fraud Detection System (FDS) to enhance digital security measures. Reached the final stage, showcasing expertise in data security and fraud prevention.

The Best Idea in the Internet of Things (IoT) category Aug 2023
National Polytechnic Informatics Student Competition (KMIPN) V
- Developed Nialonic-GC Technology, applying AI in Climate Engineering to grow various types of plants using Hydroponic-Aeroponic Methods based on the Internet of Things (IoT). This innovative solution was recognized for its potential in sustainable agriculture.

Certificate

Arutala Junior Back End Spring Boot Developer July 2025 - July 2028
ArutalaLab - Certificate Number: TC2025.J.SBC.07.031
- Completed a 22-hour, project-based certification program on back-end development using Spring Boot.
- Gained proficiency in creating REST APIs, implementing security, handling file transfers and exceptions, and performing testing with JUnit.

AI Upskilling Program June 2025 - Nov 2026
Remote Skills Academy
- A 14-hour training program as part of the AI Opportunity Funding: Asia Pacific, an initiative by AVPN supported by Google.org and ADB

Skills and Language

- **Programming Languages:** Python, JavaScript, SQL, PHP, C
- **Frameworks:** Laravel, ReactJS, Vue.js, Nuxt.js, Code Igniter, Spring Boot, ExpressJS, Flask
- **Database Management:** MySQL, PostgreSQL, MongoDB
- **Tools & Platforms:** Git, Docker, VSCode, Figma, Jupyter Notebooks, Kaggle Notebooks, Eclipse, Netbeans
- **Data Science & Machine Learning:** Data Analysis, Predictive Modeling, Time-Series Forecasting, Natural Language Processing (NLP), AI Integration, Data Visualization (Matplotlib, Plotly, Streamlit)
- **Web Development:** PWA Development, Responsive Design, UI/UX Design, API Integration, CRUD Operations
- **Soft Skills:** Problem-Solving, Team Collaboration, Project Management, Communication, Time Management, Adaptability
- **Language:** English (Professional Proficiency), Bahasa Indonesia (Native).