Richard Dean Tanjaya

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Summary

Undergraduate Data Science student at Binus University with strong interest in data science, data analytics, and data engineering. Actively involved in academic research groups and mentoring, recognized for strong communication, teamwork, and problem-solving skills in both technical and collaborative settings. Hands-on experience through research and projects in machine learning and deep learning, including work with CNNs, transformer models, and LLMs.

Education

Bina Nusantara University **Sep 2023 – Present**
Bachelor of Data Science

- **GPA: 3.96/4.00**
- **Relevant Courses:** Algorithmn and Programming, Data Structures, Machine learning, Deep Learning, Artificial Intelligence, Text Mining, Database Technology, Big Data Infrastructure and Technology

Work Experience

Undergraduate Researcher | AIRDC & BDSRC **April 2025 – Present**
Binus University *Jakarta*

- Conducted research under faculty mentorship at AIRDC & BDSRC, focusing on **deep learning** and **NLP**
- Developed a **CNN-based model** for plant disease detection leveraging merged datasets and benchmarking across 5 CNN architectures, achieving **improved prediction accuracy** for agricultural diagnostics
- Designed and evaluated **transformer-based models** on Indonesian financial tweets, comparing 5 transformer architectures with **optimization strategies**, and performed **robust evaluation** to assess reliability
- Currently Leading a research on **efficient** and **interpretable NLP** models for Indonesian review sentiment analysis, comparing multiple transformers with emphasis on model compression, interpretability, and performance trade-offs

Research and Development Activist **Feb 2025 – Present**
Data Science Club *Jakarta*

- Collaborated with the Research and Development team to organize an **NVIDIA seminar** on **"Efficient LLM Customization"**, providing hands-on insights on modern LLM fine-tuning techniques with 40+ participants
- Selected as a member of the Dataseekers Competition Team and participated in **weekly team discussions** on topics in machine learning and deep learning to enhance collective knowledge and project readiness

Student Mentor | Student Advisory and Support Center (SASC) **Feb 2025 – July 2025**
Binus University *Jakarta*

- Conducted **weekly mentoring sessions** and created practice materials on basic statistics, computational physics, algorithm design and analysis, operating systems, and survey sampling methods to reinforce key concepts
- Helped improve mentees **GPA by up to 10%** through structured guidance and personalized support

Project Experience

Credit Score Approval | *Source Code* | *Website*

- Performed exploratory analysis, data cleaning, and preprocessing using **Python** to prepare credit score datasets
- **Improved classification** performance by applying **fine-tuning** with machine learning and deep learning models
- Built a reusable **preprocessing pipeline** for streamlined workflows and seamless integration for deployment

Uber Data Analysis | *Source Code* | *Website*

- Utilized **PostgreSQL** for data understanding and analysis to extract meaningful insights prior to visualization
- Developed an interactive **Power BI dashboard** with advanced features such as bookmarks, DAX measures, custom relationships, custom drill-through, and dynamic charts to communicate trends effectively

Indonesian Stock Sentiment Analysis | *Source Code* | *Website*

- Experimented with traditional ML models, transformer-based models (IndoBERTweet), and LLMs (LLaMA 3.2-1B)
- Fine-tuned models using **LoRA** for LLMs and **hyperparameter tuning** for transformers

Personal Chatbot With RAG | *Source Code* | *Website*

- Built a custom personal chatbot using gotocompany/gemma-2-9b-cpt-sahabatai-instruct via **API integration** and **Retrieval-Augmented Generation (RAG)**, enabling conversational QnA over personal documents
- Applied **prompt engineering** with **FAISS-based retrieval** ensuring accurate and document-grounded responses

Technical Skills

Languages: Python, SQL, C, R, JavaScript

Tools: PowerBI, SQL Server, PostgreSQL, VS Code, Github, Docker, Azure, Microsoft Excel

Libraries & Models: Scikit-learn, TensorFlow, PyTorch, PySpark, FastAPI, CNN, YOLO, Transformers, LLMs