ALVIN RACHMAT

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Work Experience

UNTUKMU.AI

Machine Learning Engineer 09/23 – Now

- Utilized **LLM Models** to empower AI Chatbot functionality
- Developed a **Testing Framework** using Streamlit for efficient chatbot testing procedures
- Managed daily **Google Cloud** operations including log error checking, provisioning of new AI servers, serverless deployment, storage management, CI/CD implementation, and alert systems
- Implemented strategies to enhance **process efficiency** through concurrency and parallelism, resulting in **faster response time** for the AI Chatbot
- Developed code for search functionality within a search engine framework, leveraging search databases like **Elasticsearch** and **Milvus**
- Doing **Prompt Engineering** for Bahasa Indonesia and English
- **Utilization of Social Media API** and involvement in the Generative AI
- **Ultra-fast development** for prototyping to investors (web dashboard dan usability of the LLM apps)
- **Fine-tuning LLM** to a dataset to match the question we want (BERT, LLaMa)
- **Local/on-premise LLM Model** by using LM Studio
- **Agentic LLM** to generate and execute code solely using LLM prompt
- Handling various paid models/API such as **OpenAI API, Gemini API, & Huggingface API**
- Non-LLM: Established a **faceswap technology** by utilizing cutting-edge libraries and packages
- **Tech Stack**: Google Cloud (Compute Engine, Cloud Run, Cloud Storage, Logging Sink, Pub/Sub, Cloud Build and Trigger, Cloud Artifact, Vertex), Microsoft Azure, FastAPI, Flask, HTML-CSS, Docker, OpenAI (Text Generation, Image Generation, Embeddings), Langchain, Faceswap, Streamlit, HuggingFace, ElasticSearch, Milvus, Polyglot, LM Studio, Autogen, Gemini

SINAR MITRA SEPADAN FINANCE (Part of Orix Japan and Sinarmas)

Data Scientist 05/22 – 09/23

- Developed **credit scoring models** in collaboration with cross-functional teams, including BOD members, credit analysts, product manager, data engineer, data scientist, and backend engineer
- **Presented** credit scoring model results to BODs from Japan & Indonesia in English on a monthly basis
- Collaborated with collection team, develop a predictive model to identify high-risk existing customers (**collection models**)
- Utilized **Python** on daily basis for data cleaning, feature engineering, and model creation, and monitored model metrics as requested by users (editor: Jupyterhub, Jupyter Notebook, VS Code)
- Developed local dashboards using **dashboarding python packages** such as **Streamlit** and Voila to present results and insights to the internal (Digital Transformation and Business Analyst) team
- Utilized **DataRobot** as an automated machine learning tool when required, **collaborating with a thirdparty** vendor for the implementation & integration of this software
- Developed & maintained dashboard projects in **Metabase**, which provides critical business insights (Target and Actual, Sales Efficiency) to the BODs & Marketing GMs, build with advanced queries
- Developed & maintained credit scoring project's **Docker** & **FastAPI** frameworks
- Demonstrated proficiency in **Microsoft SQL** & familiarity with **Postgres** for daily database operations

SMART CITY & COMMUNITY INNOVATION CENTER ITB
Data Scientist 08/21 – 05/22

- Conducted gap analysis & developed a **churn prediction model** for Jasa Raharja that classified insurance arrears and predicted whether someone would be late to pay SWDKLLJ. This project involved working with approximately 6.5 million data points & utilizing the **CRISP-DM** methodology
- Provided assistance to a doctoral student on a paper related to anomaly detection and forecasting in IoT smart-farming sensors using the GRU auto-encoder algorithm in **TensorFlow (neural networks)**

Side Projects

Machine Learning Engineer, Untukmu.ai (1 Month, 2023)

- Doing **Prompt Engineering** for Bahasa Indonesia
- Develop a **Testing Framework** using Streamlit for efficient chatbot testing procedures

Geo-Data Scientist, Travelling Salesman Problem, FMCG company (5 Month, 2023)

- Solve Travelling Salesman Problem to efficiently assign sales visit sequence
- Using Jupyter Notebook, OSRM, Python, Folium, Google Maps
- Analyzing more than 1 million data row with relational database
- Assisting devops team to deploy using docker, portainer, Jenkins
- Assisting web-developer to use git and upload its own repo
- **The challenge is must create a very efficient algorithm**, in the end reach 15s per salesman routing, **nationally took 3 hours only**

Geo-Data Scientist, Unspervised Learning+Travelling Salesman Problem, Bank company (3 Month, 2023)

- Solve Unsupervised Learning Problems to efficiently regrouping car sales area
- Solve Travelling Salesman Problem to efficiently assign sales visit sequence
- Self-deploy the result using Python, Folium, **OSRM, Streamlit web-development (as frontend), MongoDB as non-relational database**
- Build CI/CD of the apps using Github and Docker
- The challenge is must be delivered with a short amount of time, **MVP of app solved in 2 weeks (algorithm+front end)**

Data Related Activities

Indosat Ooredoo Camp (Idcamp) 2021
Machine Learning (Expert Stage) (Dicoding ML 5)

FGA Digital Talent Scholarship 2021
IBM Machine Learning by Ministry of Communication and Information Technology of the Republic of Indonesia (Dicoding ML 1,2,3,4, IBM, Helsinki University course, etc)

AI Planet 2021
Data Science (Big Three Accuracy in the final assignment as a datathon) (leaderboard id: alvinrach)
aiplanet.com/challenges/74/getting-started-with-data-science-bootcamp-final-assignment74/leaderboard/practice

AI Planet 2021
Deep Learning (First Place in the final assignment as a datathon)
aiplanet.com/challenges/144/gender-determination-by-morphometry-of-eyes-144/leaderboard/practice

Education

BANDUNG INSTITUTE OF TECHNOLOGY Bandung, Indonesia

Bioenergy and Chemurgical Engineering (Chemical Engineering) 08/15 – 10/19

- Relevant Courseworks : Engineering Statistics (also as Tutor), Chemical Process Computation, Introduction to Information Technology

Self Projects

Walmart Stock Prediction with ~0.45% MAE error (Forecasting Problem using Neural Network)
github.com/alvinrach/25-Time_Series-Stock_Prediction

Car Insurance Sales Prediction (Classification using XGBoost) (3rd accuracy on DPhi bootcamp leaderboard's Notebook)
github.com/alvinrach/21-Car-Insurance-Sales-Prediction

Leadership Activity

Bioenergy and Chemurgy Eng. Student Association

Head of Professionalism Division 01/17 – 12/17