REYDIKO FAKHRAN HAIDI

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SUMMARY

A Fresh Graduate Applied Data Science with one year of experience as a Machine Learning Engineer intern—six months each at PDAM Surya Sembada Surabaya and Telkom Surabaya. I hold a BNSP Data Scientist certification (November 2024) and specialize in building and deploying ML models for real-world applications. My core skills include NLP, image segmentation, image classification, object detection, and developing API-based ML model integration. Passionate about Machine Learning, AI, and Computer Vision, I enjoy creating end-to-end solutions and continuously keep up with evolving technologies and industry practices.

EXPERIENCE

Internship at Telkom Indonesia
Machine Learning Engineer (July 2024 – December 2024)
- Developing a Machine Learning–based Customer Service Chatbot for WhatsApp
- Building an NLP pipeline: data preprocessing, text classification model fine-tuning, model evaluation, and hyperparameter tuning.
- Implementing question embeddings and integration with a Large Language Model (LLM).
- Applying if-else logic to handle response variations based on model classification results.
- Integrating the chatbot into a Node.js server and WhatsApp API to serve customers in real time.

Internship at PDAM Surya Sembada Surabaya
Machine Learning Engineer (January 2024 – July 2024)
- Developing a Generative AI system based on PDAM's internal database to automatically answer customer inquiries
- Designing the chatbot system architecture (React + Flask + LLM) to process user queries and return relevant responses.
- Building an NLP pipeline: question normalization, out-of-topic detection, text classification, named entity recognition, and text-to-text generation.
- Integrating LLM model outputs with the company's internal API to generate narrative answers aligned with customer data.
- Implementing PDAMBot, capable of providing real-time information on zones, tariff codes, billing, and customer water usage.

Community Service Program at Yayasan Dana Sosial Al-Falah Surabaya
Data Analyst (July 2023 – Sept 2023)
- Cleaning, validating, and preprocessing data related to collected funds and distributed funds from various internal sources.
- Analyzing donation trends and patterns using statistical methods and data visualization.
- Applying clustering methods (K-Means) for donor and beneficiary segmentation based on behavior and characteristics.
- Developing forecasting models (ARIMA/Prophet) to predict collected and distributed funds for upcoming periods.
- Building an interactive dashboard using Power BI to present insights to YDSF management.

Awardee at Bank Indonesia Scholarship (GenBI PENS)
Staff of The Media and Information Division (April 2023 – April 2025)
- Participating in all Bank Indonesia events, including webinars, leadership training, etc.
- Serving as a photographer and videographer at all GenBI PENS Work Program activities.

PROJECT

Generative AI Chatbot Based on PDAM Surya Sembada Database API
Developed a secure, intelligent generative AI chatbot connected to PDAM's internal database to provide contextual and narrative responses to customer queries. (December 2024 – April 2025)
- Fine-tuned RoBERTa for intent classification, BERT for NER, and Cendol-mT5 for text generation, comparing models and selecting the best for each task.
- Implemented question normalization (slang, typos) for Bahasa Indonesia.
- Built an API gateway for secure access to PDAM's internal database.
- Designed and developed a ReactJS-based frontend.

Tooth Disease Detection API using Image Segmentation with UNet and UNet-ResNet50 Backbone
Developed an API-based machine learning model for detecting dental diseases in panoramic radiographs using image segmentation techniques. The system performs multi-class detection of Resorption, Caries, Periapical Lesion, and Impaction, comparing both UNet and UNet with

ResNet50 backbone. (January 2025 – April 2025)
● Built and trained deep learning models for semantic segmentation using PyTorch.
● Evaluated model performance on imbalanced multiclass datasets with preprocessing and augmentation techniques.
● Deployed the best-performing model as a RESTful API using Flask for external application integration.

Customer Service Chatbot for Telkom Witel Suramadu on WhatsApp
Built a customer service chatbot integrated with WhatsApp, combining text classification models and rule-based logic to generate automated, accurate responses for Telkom customers. (July 2024 – December 2024)
● Developed a text classification pipeline for customer queries.
● Fine-tuned models with Telkom Customer Service QnA dataset.
● Applied hyperparameter tuning and evaluated models using accuracy and confusion matrix.
● Integrated the model with WhatsApp API through a backend server.
● Implemented if-else rule-based logic to refine responses according to classification results.

IT Career Recommendation Expert System
Developed an expert system to recommend IT career paths (Backend Developer, Data Scientist, Frontend Developer, Product Manager, and UI/UX Designer) based on responses to a multiple-choice questionnaire. (April 2025)
● Trained Random Forest, XGBoost, and MLPClassifier on career preference datasets to identify the best-performing model.
● Performed preprocessing with label encoding and evaluated models using accuracy and classification report.
● Deployed the best model as a Flask API for real-time recommendation delivery.

SERTIFICATION

BNSP Data Scientist Competency Certification
National Professional Certification Agency (BNSP) | Issued Nov 2024 · Valid until Nov 2027
● Credential ID: No. 62090 2120.99 06 0000142 2024
● Field: Data Science, Machine Learning, and Artificial Intelligence (AI)

ORGANIZATION

Himpunan Mahasiswa Teknik Informatika (HIMIT) PENS
Expert Staff in Art and Sports Department (August 2023 – June 2024)
● Event Coordinator for HIMIT Sehat.
● Event Coordinator for HIMIT Boost
● Controlling Management In Sport HIIMIT Community

EDUCATION

ELECTRONIC ENGINEERING POLYTECHNIC INSTITUTE OF SURABAYA
Bachelor of Applied Data Science (B.Sc.) (2021 – 2025)
● Current Cumulative GPA : 3.73 / 4.0.

ADDITION

Languages
● Bahasa Indonesia (Fluent), English (Accurate)

Technical Skills
● Programming: Python (Transformers, NumPy, Pandas, Matplotlib, Seaborn, scikit-learn, Plotly, TensorFlow, PyTorch, OpenCV, Keras, Django, NLTK, SciPy, Statsmodels, ggplot), R (caret, mlr, prophet, glmnet, ggplot2, readr, tidyr, dplyr, Shiny)
● Dashboard & Visualization: Power BI, Google Data Studio, Microsoft Excel
● Databases: MySQL, PostgreSQL, ChromaDB, FAISS

Soft Skills
● Leadership, Teamwork, Analytical Thinking, Continuous Learning, Adaptability