**Muhammad Ramdhan Hidayat**

Jakarta, Indonesia | +6281295813273 | ramdhan\_hidayat@outlook.com | LinkedIn: linkedin.com/in/muhammad-hidayat | Portfolio: github.com/muhammadhidayat | Blog: medium.com/@muhammadhidayat

**SUMMARY**

Junior AI Engineer specializing in Large Language Models (LLMs) and Natural Language Processing (NLP), with over 1 year of project-based experience in designing, developing, and evaluating LLM-powered chatbot and agent solutions, complemented by professional experience in data processing and programming. Proficient in Python, LangChain, Hugging Face Transformers, and OpenAI API, with a strong understanding of RAG systems, prompt engineering, transformer architectures, and data preprocessing. Proven ability to translate complex data into actionable insights, collaborate effectively in cross-functional teams, and proactively learn new AI techniques to build scalable and high-performance systems.

**TECHNICAL SKILLS**

**Programming Languages:** Python (NumPy, Pandas, Scikit-learn), SQL, R

**LLM Frameworks & Tools:** LangChain, Hugging Face Transformers, OpenAI API, Ollama, CrewAI, PydanticAI, RAG Systems, Prompt Engineering

**AI/ML Concepts:** Large Language Models (LLMs), Natural Language Processing (NLP), Transformer Architectures, Fine-tuning, Model Evaluation & Benchmarking, Data Preprocessing, Dataset Curation, AI Pipelines, Natural Language Understanding (NLU), Natural Language Generation (NLG)

**Cloud & Databases:** Google Cloud Platform (BigQuery), AWS (Sagemaker), PostgreSQL

**Web Technologies:** Next.js, React, TypeScript, Tailwind CSS

**PROJECTS**

**SycoBench - AI Sycophancy Evaluation Dashboard**

* Designed and developed an LLM evaluation framework and interactive dashboard to measure and visualize sycophancy in Large Language Models across 50+ diverse topics.
* Engineered a Python backend for robust LLM metric computation, model evaluation, and benchmarking, utilizing advanced NLP techniques, processing data for over 10 different LLMs.
* Implemented prompt engineering strategies with prompt-level filtering and quadrant visualizations to identify and analyze model bias and over-alignment, enhancing model interpretability.
* Built a multi-metric evaluation dashboard using Next.js, TypeScript, and Tailwind, enabling comprehensive comparison across various LLMs.

**PdVerse: Intelligent PDF Management and AI Chat Assistant**

* Architected and developed an AI-powered chatbot and intelligent PDF management system, integrating conversational AI for enhanced document understanding.
* Implemented a Python backend for semantic search, document parsing, data preprocessing, and AI integration, leveraging RAG (Retrieval Augmented Generation) retrieval and OpenAI API.
* Enabled semantic Q&A over PDFs using embedded vector search, significantly improving information retrieval by an estimated 30% and enhancing user interaction.
* Designed a scalable, local-first operation for file search functionality with optional OpenAI API integration, demonstrating considerations for production environments and performance.
* Developed a modular chat memory and document persistence system, contributing to a robust and scalable AI agent solution.

**Customer Segmentation Using RFM Analysis & Unsupervised Machine Learning**

* Optimized marketing campaigns by integrating RFM variables, customer demographics, and behavioral data, enhancing segmentation effectiveness through UMAP and HDBSCAN.
* Utilized Python and R for advanced machine learning techniques, including RFM Analysis, UMAP (Uniform Manifold Approximation and Projection), and HDBSCAN.
* Successfully identified high-quality customer clusters (DBCV Score: 0.73, Trustworthiness Score: 0.98), resolving age group capture issues and enabling more effective marketing campaigns.

**EXPERIENCE**

|  |  |
| --- | --- |
| **Problem Generator/Junior Programmer** | **May 2021 – Nov 2021** |
| ***Zenius Education*** |  |

* Developed robust gamified educational content, showcasing strong programming and logic skills in a fast-paced environment.
* Applied Python for comprehensive data analysis, data preprocessing, and rectifying production errors in thousands of JSON files, ensuring data quality for downstream systems.
* Implemented process enhancements that resulted in a 90% reduction in production errors, demonstrating strong problem-solving skills and attention to detail crucial for maintaining high-quality data pipelines.
* Provided technical guidance and mentorship to junior team members, fostering a collaborative work environment.

|  |  |
| --- | --- |
| **Data Analyst** | **Nov 2021 – June 2022** |
| ***Zenius Education*** |  |

* Performed data extraction from Google Cloud via BigQuery; conducted comprehensive data processing, cleansing, and dataset curation for modeling using Amazon Sagemaker within a collaborative AWS environment.
* Identified opportunities to improve business decisions by analyzing user play data, conducting extensive statistical analyses (hypothesis testing, A/B testing) to generate data-driven insights that informed key business strategies.

|  |  |
| --- | --- |
| **Education Mentor, Machine Learning & Data Analytics** | **Feb 2022 – June 2023** |
| ***Kampus Merdeka*** |  |

* Mentored 70+ students across three cohorts in Data Science and Machine Learning, covering key topics from data collection to model deployment.
* Evaluated and provided detailed feedback on students' Data Analysis projects, encompassing the entire spectrum of data projects.

|  |  |
| --- | --- |
| **Tutor Assistant** | **Dec 2023 – April 2024** |
| ***Rakamin Academy*** |  |

* Mentored 25 students in Data Science, guiding them through end-to-end projects from SQL querying and data analysis to model building with Python.
* Assessed and provided comprehensive feedback on students' Data Science homework, including querying databases, analyzing data, and building models.

**EDUCATION**

|  |  |
| --- | --- |
| **Master of Science in Data Science & Analytics** | **2020 – 2024** |
| ***University of Science Malaysia*** |  |

|  |  |
| --- | --- |
| **Bachelor of Science in Physics** | **2015 – 2019** |
| ***University of Malaya*** |  |

**CERTIFICATIONS**

* BCG X Data Science (Forage) | Sep 2024.
* Decision Intelligence (Cassie Kozyrkov) | Sep 2023.
* Data Analytics Methods for Marketing (Meta) | Aug 2023.
* Goldman Sachs Excel for Business (Forage) | Mar 2021.