**Muhammad Ramdhan Hidayat**

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**SUMMARY**

ML Specialist with a Master's in Data Science, focused on enhancing AI model performance through rigorous evaluation and data-centric analysis. Expertise in NLP, Deep Learning, and developing benchmarks to debug and probe LLM reasoning, fairness, and reliability. Passionate about iterative, research-driven problem-solving to advance the state-of-the-art in machine learning.

**TECHNICAL SKILLS**

**Languages:** Python, R, SQL, Clojure

**ML/NLP Concepts:** Deep Learning, Supervised & Unsupervised Learning, NLP, RAG Systems, LLM Evaluation, Statistical Modeling, Experimental Design, A/B Testing

**Frameworks & Libraries:** PyTorch, TensorFlow, Hugging Face Transformers, LangChain, Scikit-learn, Pandas, Seaborn

**Tools & Cloud:** AWS Sagemaker, Google BigQuery, Git, Docker, Next.js

**PROFESSIONAL EXPERIENCE**

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

* Extracted and processed large datasets from Google BigQuery to analyze user behavior patterns.
* Conducted statistical analyses, including hypothesis testing and A/B testing on AWS Sagemaker, to generate actionable insights that informed product strategy.
* Collaborated on data modeling tasks, preparing and cleansing data for predictive analytics.

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

* Analyzed and debugged large-scale JSON datasets using Python, ensuring high-quality data integrity for educational content systems.
* Implemented data validation scripts and process improvements that reduced data production errors by 90%, enhancing downstream data reliability.
* Mentored junior team members on data analysis and programming best practices.

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

* Mentored 70 students across three cohorts in advanced Machine Learning and Data Analytics concepts, directly paralleling AI training methodologies.
* Evaluated student projects against rigorous standards, providing structured, in-depth feedback on data processing, model selection, and performance analysis to improve outcomes.

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

* Provided data science mentorship to 25 students, guiding them through complete data science projects from SQL querying to model building in Python.
* Assessed student projects and delivered comprehensive feedback to reinforce best practices in data analysis and machine learning.

**SELECTED PROJECTS**

**SycoBench - AI Sycophancy Evaluation Dashboard**

* Designed and developed SycoBench, a novel evaluation framework and interactive dashboard to benchmark sycophantic bias in Large Language Models (LLMs).
* Engineered a Python backend to compute and analyze responses across 5 major LLMs, probing for 3 distinct types of failure modes related to over-alignment and lack of fairness.
* Implemented multi-metric visualizations to compare LLM performance, enabling granular analysis of model behavior at the prompt and topic level.

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

* Built an intelligent document management system with an AI-powered conversational interface using a hybrid Retrieval-Augmented Generation (RAG) architecture.
* Enabled semantic Q&A over PDF documents by implementing an embedded vector search with local/offline capabilities for enhanced privacy and performance.

**Customer Segmentation Using Unsupervised Machine Learning**

* Implemented unsupervised learning techniques (UMAP, HDBSCAN) to perform customer segmentation, improving on traditional RFM analysis by capturing complex behavioral patterns.
* Developed and evaluated clustering models in Python and R, achieving a high-confidence DBCV score of 0.73 and a Trustworthiness score of 0.98.

**EDUCATION**

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

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