**Muhammad Ramdhan Hidayat**

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LinkedIn | Portfolio | Blog | GitHub: github.com/ramdhanhdy

Machine Learning Engineer specializing in fine-tuning and deploying large language models (LLMs) using LoRA/QLoRA and SFT. Experienced in prompt engineering, dataset curation, and building evaluation frameworks for model safety, relevance, and performance. Skilled in full-stack AI application development with PyTorch, FastAPI, and React.

**TECHNICAL SKILLS**

**Languages:** Python, TypeScript, SQL

**ML Frameworks:** PyTorch, Hugging Face Transformers, LangChain, LlamaIndex

**AI/ML:** LLM Fine-tuning (LoRA/QLoRA, SFT), Prompt Engineering, Dataset Curation, RAG, Model Evaluation (Perplexity, Toxicity, Relevance), OCR

**Tools:** FastAPI, Streamlit, Git, GitHub Actions, SQLite

**Frontend:** React, Next.js, Tailwind CSS

**Domains:** AI Resume Optimization, Competency Analytics, AI Safety, Text Generation

**AI/ML PROJECTS**

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| **resume-optimizer | Open Source LLM Pipeline for Ethical Resume Optimization** |  |
| ***GitHub: https://github.com/ramdhanhdy/resume-optimizer*** |  |

* Designed and deployed a 5-agent AI pipeline using PyTorch and Hugging Face Transformers, with streaming and validation workflows to fine-tune and align LLM outputs for resume optimization while preserving factual accuracy and evidence integrity
* Designed prompt engineering and data curation framework to align model responses with professional tone, fairness, and transparency
* Designed model evaluation system assessing relevance, coherence, and ethical alignment using qualitative analysis and toxicity proxies
* Deployed backend with FastAPI and orchestrated agent workflow with streaming, validation, and multi-provider LLM support (OpenAI, Gemini)

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| **SycoBench | LLM Evaluation Framework for Model Safety & Alignment** |  |
| ***GitHub: https://github.com/ramdhanhdy/sycobench*** |  |

* Developed a model evaluation dashboard to assess LLM behavior across dimensions of sycophancy, bias, and over-alignment—proxies for toxicity and safety
* Engineered prompt-level evaluation pipeline measuring model relevance, consistency, and tendency to over-agree
* Evaluated model performance using perplexity scoring and prompt-response consistency analysis
* Tracked model drift over time using quadrant-based visualization of alignment behavior
* Designed for use in AI moderation and safety testing workflows

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| **ocr-gemini | OCR Application Using Google Gemini Flash** |  |
| ***GitHub: https://github.com/ramdhanhdy/ocr-gemini*** |  |

* Built a Streamlit-based AI application to extract text from images using Google Gemini Flash, demonstrating prompt engineering and API integration
* Designed secure API key management and structured output formatting in Markdown
* Validated model performance across document types and handwriting clarity

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| **jobfit-ai-research | Competency-Aware AI Coaching System** |  |
| ***GitHub: https://github.com/ramdhanhdy/jobfit-ai-research*** |  |

* Designed a data-driven coaching system using structured fit analytics and gap detection to improve career guidance over prompt-only baselines
* Evaluated system against control, showing 68% win rate in actionability and relevance
* Implemented competency modeling and alignment scoring to personalize AI recommendations

**PROFESSIONAL EXPERIENCE**

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

* Designed and delivered ML curriculum for 70+ students, covering LLMs, RAG, model evaluation, and deployment workflows
* Evaluated student projects using structured rubrics for code quality, model performance, and ethical considerations—simulating real-world ML review processes

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| **Junior Programmer** | **May 2021 – Nov 2021** |
| ***Zenius Education*** |  |

* Developed educational content using Clojure and Python; debugged and corrected production issues in 1,000+ JSON files
* Led small team in content development, reducing errors by 90% through automated validation and process improvements

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| **Data Science Mentor** | **Dec 2023 – Apr 2024** |
| ***Rakamin Academy*** |  |

* Mentored 25 data science students with diverse backgrounds, providing feedback on end-to-end projects from SQL querying to model deployment
* Emphasized clean code practices, reproducibility, and model evaluation in project reviews

**EDUCATION**

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

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

**CERTIFICATIONS & OPEN-SOURCE CONTRIBUTIONS**

BCG X Data Science (Forage, Sep 2024) | Goldman Sachs Excel for Business (Forage, Mar 2021)

Decision Intelligence (Cassie Kozyrkov, Sep 2023) | Data Analytics Methods for Marketing (Meta, Aug 2023)

Published open-source LLM tools: resume-optimizer (fine-tuning pipeline) and SycoBench (evaluation framework)