

Ilma Aliya Fiddien

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EDUCATION

The University of Edinburgh

Edinburgh, Scotland

Master of Science in Speech and Language Processing

Sep. 2022 – Aug. 2023

- Thesis: Investigating Clear-Writing Principles for Scientific Communication: Automated with ClearMetrics (Supervised by Adam Lopez, Ph.D.)
- Relevant courses: Natural language processing & understanding, automatic speech recognition, speech synthesis, AI ethics, statistics and qualitative measurements

Institut Teknologi Bandung

Bandung, Indonesia

Bachelor of Science in Mathematics

Aug. 2017 – July 2021

- Thesis: Partition Dimension of 2-Strong Product Graphs and Resolving Partition Finder Program for Some Classes of Graph (Supervised by Prof. Dr. M. Salman A. N.)
- Relevant courses: Deep learning, data analysis, Google Bangkit 2021 Machine Learning Path

INDUSTRIAL EXPERIENCE

Generative AI Engineer

Oct. 2024 – Present

AssistX Enterprise

Jakarta, Indonesia

- Designed and conducted systematic benchmarking of LLMs, embedding models, and agentic pipelines for various downstream tasks.
- Fine-tuned embedding models for domain-specific Indonesian content for cross-lingual retrieval tasks.
- Implemented Vision Language Models for OCR and multimodal document processing.
- Implement specialized projects including information extraction, document translation, and multilingual knowledge base management in the domain of human resources and accounting.
- Led AI safety testing for enterprise deployments.

Machine Learning Engineer

Oct. 2023 – Oct. 2024

AJARI Technologies

Jakarta, Indonesia

- Researched and implemented various classical and state-of-the-art ML/NLP models and techniques for education-domain use cases.
- Developed and monitored the performance of AI services for multiple projects and continuously improved the system. Reduced learning materials processing time up to 5x faster.
- Researched and implemented multi-agent LLMs architecture. Improved chat response time by 3x faster.
- Involved in streamlining team management workflow (Agile & Scrum methodologies) in a fast-growing developer team.

AWARDS

Edinburgh Award, Students as Change Agents (2023)

ISIC 2023 PPI UK, Best Essay in Social and Health Reconstruction Category (2023)

The Indonesia Endowment Fund for Education (LPDP) Scholarship, Indonesian Government (2022-2023)

Salman Activist Scholarship (BAS), Rumah Amal Salman (2019-2020)

PUBLICATIONS

Books

Menyikapi Era Kecerdasan Artifisial: Etika, Keadilan, dan Tata Kelola | *Co-author*

In progress

- Co-authored with Dr. Aditya Firman Ihsan and Thomhert Suprpto Siadari, PhD (Telkom University)
- Indonesian-language AI ethics book for general readers and institutional decision-makers addressing ethical frameworks, algorithmic justice, and AI literacy

CONFERENCE AND WORKSHOP PRESENTATIONS

Towards Contestable AI: Embedding Accountability in Indonesia's National AI Strategy

Nov. 2024

- Workshop: "From Stem to Stern: Contestability Along AI Value Chains" at The 27th ACM SIGCHI Conference on Computer-Supported Cooperative Work & Social Computing (CSCW), San José, Costa Rica
- Paper | Slides

INVITED TALKS

Introduction to Philosophy of AI at CIFOR-ICRAF Indonesia	July 2025
AI for Agriculture Paper Sharing at Indonesia AI community	Feb. 2022

PROJECTS

AI Debate for Defeasible Reasoning <i>Next.js, Vercel, Multi-LLM</i>	2025
<ul style="list-style-type: none">Investigated AI debate as safety mechanism using BoardgameQA dataset, revealing that moderate-capability judges could effectively evaluate sophisticated debates, sometimes better than higher-capability LLMs.	
Image Captioning with ResNet50 and LSTM <i>PyTorch, GPU</i>	2021
<ul style="list-style-type: none">Built CNN-RNN encoder-decoder architecture on MS COCO dataset.	

TEACHING

Guest Lecturer/Mentor	2023 – 2024
<i>Indonesia AI (PT. Teknologi Artifisial Indonesia)</i>	<i>Remote</i>
<ul style="list-style-type: none">Delivered workshops on Mathematics in Deep Learning (Forward and Backward Pass) and Ethical AIEngaged AI/ML community through technical and ethical discussions	
Data Science Instructor (Associate)	July 2021 – Jan. 2022
<i>Bitlabs Academy</i>	<i>Remote</i>
<ul style="list-style-type: none">Created comprehensive learning materials including presentations, Jupyter Notebooks, and practical exercisesLed interactive machine learning bootcamp sessions covering advanced algorithms like support vector machines and gradient descent	
Assistant of Mathematics Simulation and Computation Laboratory	Sep. 2019 – Dec. 2019
<i>Institut Teknologi Bandung, Dept. of Mathematics</i>	<i>Bandung, Indonesia</i>
<ul style="list-style-type: none">Taught 50+ students MATLAB for mathematical modeling and simulationProvided instruction, assisted with lab practices, and graded assignments	

SHORT COURSES & TRAINING

AI Alignment Fundamentals	Oct. 2024 – Feb. 2025
<i>BlueDot Impact</i>	<i>Remote</i>
<ul style="list-style-type: none">Modules: Reinforcement learning from human (or AI) feedback, scalable oversight, AI safety mechanisms (adversarial robustness, unlearning and control), mechanistic interpretability, technical governance	
MLx Representation Learning & Generative AI	July 2024
<i>Oxford Machine Learning Summer School 2024/AI for Global Goals</i>	<i>Oxford/Remote</i>
<ul style="list-style-type: none">Modules: Large language models and agents, deep learning techniques, neural and behavioural comparisons between humans and machines, uncertainty quantification, deep learning in financial markets, representation learning and generative AI in vision	

TECHNICAL SKILLS

Languages: Python, SQL (PostgreSQL), MATLAB, R, JavaScript, HTML/CSS
Frameworks: Django, FastAPI, Flask, React, Next.js, PyTorch, TensorFlow
Developer Tools: Git, Docker, Redis, Celery, PostgreSQL, VS Code, Jupyter Notebook
Libraries: LangChain, Transformers, NLTK, spaCy, pandas, NumPy, Matplotlib, NetworkX, BeautifulSoup
AI/ML: Large Language Models, RAG pipelines, NLP, Speech Processing, Model Fine-tuning, Prompt Engineering
Languages: Indonesian and Sundanese (native), English (C1)