


Patrick Amadeus Irawan

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 Website  LinkedIn  Github

Research Summary

My research focus spans on **multimodal alignment** (architectural or test-time alignment, modality scarce / imbalance learning), **LLM (reasoning & knowledge enrichment via RAG and agentic systems)**, and **large-scale evaluations** (primarily in **multilingual** and multimodal settings). My pre-doctoral background includes academic and industrial experience in above topics, featuring involvement in **best paper award** and **grant-winning** multiple peer-reviewed publications (***ACL, NAACL, EMNLP, COLING**, etc.). Per this resume version, my ongoing works relate to Vision Language Models (VLM), Unified Multimodal Models (any-to-any), and RL (DPO, GRPO).

Education

- Ph.D. in Natural Language Processing — MBZUAI** 2025 - 2029
 · Advisors: [Alham Fikri Aji](#) and [Yova Kementchedjhieva](#)
 · VLM; LLM; multimodal alignment & imbalanced learning; large-scale evaluations
- Global Study Program — University of California, Davis** Jul 2023 - Dec 2023
 · computational cognitive neuroscience, tech management
- B.Eng. in Computer Science — Institut Teknologi Bandung** 2020 - 2024
 · visual question answering; synthetic data generation; LLM reasoning

Relevant Publications

- Vision Language Models are Confused Tourists** [\[Preprint\]](#) Preprint 2025
[P. Irawan](#), [I. Hanif](#), [M. Kautsar](#), [G. Winata](#), [F. Koto](#), [A. F. Aji](#)
- A Massive-Scale Multilingual Multi-Cultural Multimodal RAG** [\[Preprint\]](#) Preprint 2025
[D. Anugraha](#), [P. Irawan](#), [A. Singh](#), [E. Lee](#), [G. Winata](#)
- Entropy2Vec: Crosslingual Language Modeling Entropy as End-to-End Learnable Language Representations** [\[Paper\]](#) MRL @ EMNLP 2025
[P. Irawan*](#), [R. Diandaru*](#), [B. Jagad*](#), [R. Suchradny*](#), [A. F. Aji](#), [G. Winata](#), [F. Koto](#), [S. Cahyawijaya*](#)
- Seeing Culture: A Benchmark for Visual Reasoning and Grounding** [\[Paper/Code\]](#) EMNLP 2025
[B. Satar](#), [Z. Ma](#), [P. Irawan](#), [W. Mulyawan](#), [J. Jiang](#), [E. Lim](#), [C.-W. Ngo](#)
- WorldCuisines: A Massive-Scale Benchmark for Multilingual and Multicultural VQA on Global Cuisines** [\[Paper/Code\]](#) NAACL 2025
(Best Theme Paper 🏆)
[G. Winata*](#), [F. Hudi*](#), [P. Irawan*](#), [D. Anugraha*](#), [R. Putri*](#), (20+ authors), et al.
- ProxyLM: Predicting Language Model Performance on Multilingual Tasks via Proxy Models** [\[Paper\]](#) NAACL 2025
[D. Anugraha](#), [G. Winata](#), [C. Li](#), [P. Irawan](#), [E. Lee](#)
- Towards Efficient and Robust VQA-NLE Data Generation with Large Vision-Language Models** [\[Paper\]](#) COLING 2025
[P. Irawan](#), [G. Winata](#), [S. Cahyawijaya](#), [A. Purwarianti](#)
- Datasheets Aren't Enough: DataRubrics for Automated Quality Metrics and Accountability** [\[Preprint\]](#) Preprint 2025
[G. Winata*](#), [D. Anugraha*](#), [E. Liu*](#), [A. Aji*](#), [S. Hung](#), [A. Parashar](#), [P. Irawan](#), et al.
- SEACrowd: A Multilingual Multimodal Data Hub and Benchmark Suite for Southeast Asian Languages** [\[Paper\]](#) EMNLP 2024
[H. Lovenia*](#), [R. Mahendra*](#), [S. Akbar*](#), [L. Miranda*](#), (10+ authors), [P. Irawan](#), et al.

Work Experience

Research Engineer

Singapore Management University

Singapore

Feb 2025 – Sep 2025

- Led a large-scale evaluation multimodal reasoning project, managing 5 collaborators (junior researchers, externals).
- Authored an EMNLP-accepted paper on segmentation methods for cultural and masked images.
- Continuing research on fine-grained novel video instance segmentation and moment localization in a large-scale, multicultural domain.

Software Engineer

IT Bauschmiede

Germany, Remote

Nov 2024 – Jul 2025

- Part a core logistics team involving development on real-time scheduling, automated invoicing, and geolocation features, serving 5+ enterprise clients.
- Migrated system-wide database and refactored backend MVC into microservices, reducing overall processing time by ~50% and enhancing reliability

Data Scientist Intern

Supertype

Jakarta, ID

Jan – Jul 2023

- Designed & implemented topic extraction pipeline in conjunction with sentiment & semantic analysis, improving processing speed by 5x and reducing extracted topics' redundancy & inaccuracies by 33%
- Optimized Django REST + GCP backend via code refactoring, ensuring ~95%+ uptime and increased throughput

Software Engineer Intern

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Jakarta, ID

Jun – Dec 2022

- Expanded 4 commerce checkout services coverage via BDD, producing 150+ novel or improved QA cases in 6 months
- Optimized Kafka pipeline by implementing distributed programming, boosting test efficiency by 2x

Software Engineer Intern

Ruangguru

Jakarta, ID

Jan – Apr 2022

- Developed a coding judge software for 1k+ users using Golang, whose smart scheduling & reminder features boosted task completion rate by ~15% compared to legacy tool
- Eliminated code smell and enforced updated design pattern via Golang semantics & templates

Achievement & Awards

OpenAI-MBZUAI Micro Grant Award **Grantee**

2025

NAACL Best Theme Paper Award **Winner**

2025

BCG SEA Emeralds Case Competition **Winner**

2024

Indonesian International Student Mobility Awards @ UC Davis **Awardee**

2023

DOMO Higher Education Case Competition **Finalist**

2023

CSLeaders Full Bachelor Tuition Scholarship **Awardee**

2022

Gemastik XV Data Mining Division **Finalist**

2022

Technical Skills

Core Research: Python, PyTorch, Huggingface, OpenCV, CUDA, Langchain, Langsmith

Engineering & Infrastructure: Golang, Java, TypeScript, FastAPI, Django, REST, Flask, Gin, Echo, GCP

Supporting Tools / Frameworks: Looker Studio, Tableau, PowerBI, Data Analysis Library (Pandas, Numpy, Seaborn, etc.), Slurm, Bash