Muhammad Dimas Hidayatullah bin Ikhsan

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EDUCATION

University of Malaya **Kuala Lumpur**
Master of Science in Data Science (CGPA: 3.75/4.00) *October 2022 – November 2023*
- Research Project: Personalized Learning with Generative AI – Educational Recommendations System using GANs.

University of Malaya **Kuala Lumpur**
Bachelor of Science in Physics (CGPA: 3.69/4.00, MUET: Band 4) *September 2018 – March 2022*
- Research Project: Momentum Calibrations of Particles in the COMET Experiment – Particle Detector Calibration.

WORK EXPERIENCE

Net Geometry Sdn. Bhd. **Kuala Lumpur**
Data Scientist *July 2024 – Present*
- Developed an automated document extraction pipeline applying custom-domain neural networks as a classifier and visual-language model as a wrangler, achieving 90% accuracy and reducing manual intervention by 95%.
- Architected and built an enterprise data management system on Oracle Cloud Infrastructure, consolidating data from various business systems (ERP, SCM, CRM, HR, and EAM) and implementing multiple AI models for targeted business solutions, optimizing data access and improving overall business decision-making.
- Implemented a real-time, multi-modal generative AI chatbot integrated with an ERP system to provide immediate, context-aware guidance, significantly enhancing user learning and operational efficiency by 65%.
- Functioned as a key problem solver, proactively diagnosing and resolving complex technical issues across data, model, network, system, and cloud infrastructure, minimizing disruptions and maintaining team productivity.

National Centre for Particle Physics **Kuala Lumpur**
Internship: Physics Intern *July 2021 – September 2021*
- Analyzed ATLAS experimental data on Standard Model Higgs Boson Production in the Higgs Decay.
- Applied machine learning for background reduction, boosting Higgs decay signal significance by up to 73%.

PROJECTS

Recomposing Classical Music Utilizing Generative Artificial Intelligence. *January 2024 – March 2024*
- Processed and analyzed MIDI dataset of classical music, extracting suitable features for generative AI model training.
- Built and deployed generative models (GANs, RNNs, VAEs, GPT, and custom GRUs-VAEs-GANs fusion) specifically designed to resynthesize and expand the repertoire of novel classical compositions.

Personalized Learning with Generative Artificial Intelligence. *March 2024 – September 2024*
- Processed and analyzed extensive educational data from the MOOC platform, identifying student learning patterns.
- Custom-built and optimized GANs architecture and its variants (MDGANs, multi-GANs, multi-MDGANs), improving the generation of learning pathways by up to 259% compared to the baseline model (Collaborative Filtering).

Momentum Calibrations of Particles in the COMET Experiment. *August 2020 – December 2021*
- Collaborated with Imperial College London on the COMET phase-I experiment, analyzing complex particle physics simulation data utilizing ICEDUST software, optimizing calibration algorithms, and improving signal capture.
- Verified critical detector's configuration for calibration run based on physics model and experimental requirements.

SKILLS & LANGUAGES

Programming Languages: Python (Pandas, NumPy, SciPy, Scikit-learn, TensorFlow, Keras, PyTorch), R (dplyr, tidyr, shiny, reactable, caret), SQL, Shell Scripting, MATLAB, C++.

Cloud Computing: Oracle Cloud Infrastructure (VCN, Data Integration, Data Flow, Autonomous Database, Machine Learning, AI Services), Google Cloud Platform (VPC, Data Fusion, BigQuery, Bigtable, Document AI, Vertex AI).

Big Data Technologies: Apache Hadoop, Spark, Hive, HBase, Pig.

Data Visualization: Power BI, Google Looker Studio, Oracle Analytics Cloud, Matplotlib, Seaborn.

Software Development: Oracle APEX, Flask, Django, HTML, JavaScript, CSS, Docker.

Other: SAS (Data & Statistical Analysis), Microsoft Office, LaTeX, CERN ROOT (Particle Physics Data Analysis Framework).

Languages: Malay (*Native Speaker*), English (*Competent*)