Dr. Ewe Win Eng, Ph.D.

Data Scientist | Deep Learning & Renewable Systems Specialist
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UK Global Talent Visa Holder (Eligible to work immediately; No sponsorship required)

PROFESSIONAL SUMMARY

Ph.D. Researcher and Data Scientist with extensive experience bridging the gap between theoretical physics and commercial AI applications. Expert in **Python**, **TensorFlow**, and **Deep Learning**, with a focus on **Time-Series Forecasting** and **Predictive Analytics**. Proven ability to translate complex datasets into actionable business insights, reduce computational costs, and optimize system performance. Seeking to leverage expertise in **Physics-Informed Machine Learning**, **Statistical Modelling**, and **Data Visualization** to drive value in a commercial Data Science role.

TECHNICAL SKILLS

- **Languages:** Python (Expert), SQL (Select/Join/Aggregations), MATLAB, Bash.
- **Machine Learning:** TensorFlow, Keras, Scikit-Learn, PyTorch, Deep Learning (LSTMs, CNNs, ResNet), Neural Networks, Physics-Informed ML.
- **Data Analysis & Statistics:** Pandas, NumPy, Hypothesis Testing, A/B Testing, Regression Analysis, Data Wrangling, Feature Engineering.
- **Visualization:** Matplotlib, Seaborn, Power BI, Data Storytelling.
- **Tools & DevOps:** Git, GitHub, Jupyter Notebooks, Google Colab, Cloud Computing Concepts (AWS/GCP), Linux/Unix, LaTeX.
- **Domain Expertise:** Renewable Energy, Thermodynamics, Optimization Algorithms, Predictive Maintenance.

DATA SCIENCE PROJECTS & EXPERIENCE

Diamond Price Prediction: Automated Valuation Engine | *Machine Learning Engineer* | Self-Project | 2026

- **Objective:** Engineered a production-ready pipeline to predict diamond prices with high precision, overcoming the limitations of linear models.
- **Methodology:** Built a custom **ResNet-MLP architecture** with residual skip connections to model complex non-linear interactions between categorical attributes (cut, clarity) and price. Implemented Log-Norm target engineering to stabilize gradients.
- **Impact:** Achieved model accuracy of **$R^2 > 0.95$**, creating a scalable solution for automated pricing inference.
- **Tech Stack:** Python, Scikit-Learn, Deep Learning, Feature Engineering, Model Evaluation.

NHS Covid-19 Demand Modelling | *Data Analyst* | Self-Project | 2025

- **Objective:** Supported the Scottish Government with rapid projections of ICU bed usage during the pandemic crisis.
- **Methodology:** Applied **Statistical Modelling** to patient intake data to forecast demand spikes and assist in resource allocation.
- **Impact:** Provided critical data-driven insights that directly supported public health resource planning.
- **Tech Stack:** Python, Scikit-Learn, Data Analytics, Reporting.

STEaM: Deep Learning for Energy Forecasting | *Data Scientist & Postdoctoral Researcher* | 2023-2025

- **Objective:** Solved a critical latency issue in predicting heat retention for subsurface thermal energy storage using **Deep Learning**.
- **Methodology:** Developed and trained a **TensorFlow LSTM (Recurrent Neural Network)** on historical sensor data to replace slow physics-based simulations. performed extensive data cleaning and feature selection using **Pandas**.
- **Impact:** Reduced simulation runtime by **90%**, enabling real-time decision-making for energy grid optimization.
- **Tech Stack:** Python, TensorFlow, Keras, Time-Series Analysis, Google Colab.

PVT Systems Optimization | *Simulation & Optimization Specialist & Research Assistant* | 2018-2022

- **Objective:** Addressed underperformance in solar collectors by optimizing static configuration parameters.
- **Methodology:** Designed and implemented custom **Genetic Algorithms** to cycle through thousands of design variables, simulating performance outcomes.
- **Impact:** Identified an optimal configuration that increased energy capture efficiency by **30%**, demonstrating direct ROI through algorithmic optimization.
- **Tech Stack:** MATLAB, Mathematical Modelling, Optimization Algorithms.

EDUCATION

Doctor of Philosophy (PhD.) in Renewable Energy
Universiti Kebangsaan Malaysia, Selangor, Malaysia | Sep 2018 – Mar 2022

- Thesis: Jet Impingement Photovoltaic-Thermal Solar Air Collector for Higher Electricity Production

Master of Science (MSc.) in Energy Technology
Universiti Kebangsaan Malaysia, Selangor, Malaysia | Sep 2017 – July 2018
Bachelor of Science (BSc.) in Physics
University of Glasgow, Glasgow, UK | Sep 2014 – Jun 2017

PUBLICATIONS & ACHIEVEMENTS

- **Research:** Author of multiple peer-reviewed papers on Deep Learning applications in Energy Systems [https://scholar.google.com/citations?hl=en&user=O1De6b8AAAAJ].
- **Global Talent:** Recognized by the UK government as a leader in the field of digital technology/science.