LIN-LIN HUA

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EDUCATION

University of Southern California **January 2025 - December 2026**
Master's, Electrical and Computer Engineering (focus on ML&DS track)
- Merit Based Scholarship Owner

Imperial College London **October 2020 - November 2021**
Master's, Nanomaterials
- QS universities ranking #7 in Engineering & Technology in 2020

National Chiao Tung University **September 2017 - July 2020**
Bachelor's, Microelectronics
- KTH Royal Institute of Technology Scholarship Owner for Master's Programme in Nanotechnology

TECHNICAL SKILLS

- **Languages:** Python, C++, SQL, MATLAB
- **Frameworks & Tools:** AWS (Lambda, SQS, DynamoDB), PyTorch, TensorFlow, Docker, Git, Bazel, Linux

PROJECTS & OUTSIDE EXPERIENCE

Adaptive Weight Packing Profiler — Edge LLM Memory Optimization **California, USA**
November 2025 - Current
- Engineered a **PyTorch** compression tool replicating the **MLSys '25 (MEADOW)** weight packing algorithm to optimize memory access for **Edge LLMs** (e.g., OPT-125M).
- Achieved **~40% bandwidth reduction** by conducting sensitivity analysis on weight chunk sizes, outperforming standard INT8 quantization for bandwidth-constrained devices.

ReceiptInbox — Serverless Receipt Parser, Spend Categorizer, and Smart Alerts **California, USA**
September 2025 - Current
- Architected a scalable serverless backend using **AWS Lambda, SQS, and API Gateway**, designing event-driven RESTful APIs that decoupled OCR processing tasks to ensure high availability under concurrent loads.
- Engineered a **full-stack** solution by integrating **DynamoDB** for optimized low-latency data retrieval and **AWS Bedrock** for intelligent parsing, delivering real-time spend analytics to the frontend.

Intent Classification for ATIS Airline Queries **California, USA**
September 2025 - Current
- Built an **end-to-end NLP pipeline** in **PyTorch**, implementing custom DataLoaders and **LSTM** networks to process the ATIS dataset, effectively capturing sequential dependencies to outperform baseline models.
- Optimized model generalization by integrating GloVe **pre-trained embeddings** and conducting systematic hyperparameter tuning (dropout, batch size), significantly improving F1-scores on imbalanced data classes

PROFESSIONAL EXPERIENCE

Lam Research **Tainan, Taiwan**
Process Engineer *May 2022 - May 2024*
- Optimized high-dimensional process parameters for CMOS devices to reduce prototype costs, collaborating with R&D teams to ensure manufacturing stability through statistical validation.

Imperial College London **London, United Kingdoms**
Research Assistant in INHALE Team *April 2021 - September 2021*
- Co-authored the paper 'Multi-Output Regression with Generative Adversarial Networks' using **Tensorflow**, **Keras**, **Python** and **machine learning** techniques to analyze air pollution data (multi-dimensions), applying regression models for enhanced insights.
- Analyzed the prediction results with a reasonable explanation and compared the WGAN model with **AutoEncoder**, **RNN**, and **CNN** models.

National Chiao Tung University **Hsinchu, Taiwan**
Laboratory Assistant, Yung-Fu, Chen's Electrophysics Lab *June 2018 - September 2018*
- Visualized particle propagation and behavior in 3D space using **MATLAB**, applying advanced mathematics to summarize findings on wave patterns and vortex structures in astigmatic transformations of **Hermite-Gaussian beams**.