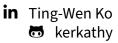
(+44) 07851241799 kathyka711@gmail.com

Ting-Wen (Kathy) Ko



RESEARCH INTEREST

Causal reasoning, trustworthy AI, AI safety, model interpretability

EDUCATION

M.Sc., Computational Statistics and Machine Learning, University College London (in London, UK)

Sep 2024 — Sep 2025

- Courses: Probabilistic and Unsupervised Learning, Supervised Learning, Bayesian Deep Learning, Statistical Model and Analysis, Open-Endedness and General Intelligence, Statistical NLP
- Supervised by Mengyue Yang and Jun Wang.

M.Sc., Computer Science, National Taiwan University (in Taipei, Taiwan)

Sep 2022 — Jun 2024

- GPA: 4.17/4.3
- Supervised by Pu-Jen Cheng and Jyun-Yu Jiang.
- Thesis: Enhancing Retrieval Augmented Generation with Passage Combination.

B.Sc., Undergraduate Honors Program of Electrical Engineering and Computer Science

Sep 2018 - Aug 2022

National Yang Ming Chiao Tung University (Previously National Chiao Tung University) (in Hsinchu, Taiwan)

Overall GPA: 3.93/4.3

RESEARCH AND WORK EXPERIENCE

University College London

Apr 2025 — Current

Master's Thesis Research

• Exploring spurious correlation in LLMs from the perspective of OOD detection.

MediaTek Research UK

Deep Learning Intern

 Researched on the model representation when LLM reasons, layer optimization through adaptive pruning, and diffusion model techniques to improve transformer-based language models.

National Taiwan University

Sep 2023 — Jun 2024

Jun 2024 — Aug 2024

Master's Thesis Research (Link: **𝚱**) (Code: 🐻)

- Developed an end-to-end trainable dense passage retriever that optimizes passage combination selection for retrieval-augmented OA with LLM
- Implemented comprehensive baseline systems, including sparse/dense retrieval and reranking methods

Global Media Team, Yahoo!

Sep 2023 — Dec 2023

Project Intern (Code: 5)

- Researched on multitask learning approaches for text readability assessment.
- · Implemented unsupervised learning-to-rank to predict a comprehensive readability signal.

Global Media Team, Yahoo!

Jul 2023 — Aug 2023

Research Engineering Intern

- Designed an internal LLM chatbot with vector database integration for Yahoo news articles.
- Applied retrieval-augmented generation methods for improved explainability and diverse search result by max marginal relevance search and asymmetric embeddings.

SELECTED PROJECTS

Deconstructing LLM Faithfulness (Python)

Feb 2025 — Current

- Revisited existing faithfulness tests from a causal framework.
- Investigate the application of RL techniques to train language models using faithfulness as a reward metric.
- Research areas: causality, RL fine-tuning, AI safety, trustworthy AI

BANDITPROMPT: Steering Creativity in Image Generation (Python / LLMs / Diffusion Models)

Feb 2025 — Current

- Developed a novelty search-based approach for generating diverse sets of images using LLM prompt optimization.
- Implemented a Beta-Thompson multi-armed bandit algorithm to adaptively select specialized mutation strategies.
- Conducted comprehensive evaluations demonstrating superior diversity metrics compared to existing baselines.
- Research areas: Generative AI, evolutionary algorithms, multi-armed bandits, prompt optimization

SKILLS

ML/AI Large Language Models, Retrieval-Augmented Generation, Language Modeling, Transformer Ar-

chitectures, Causal Inference, Evolutionary Algorithms

Python, PyTorch, HuggingFace, C/C++, Java, SQL **Programming**

Toolkits

Git, Linux, Pandas, NumPy, Scikit-learn, NLTK, Streamlit