Kairan ZHAO

MB 4.17 – University of Warwick – Coventry, UK **1** +44 7721636750 • ⊠ Kairan.Zhao@warwick.ac.uk LinkedIn | Google Scholar | GitHub | Homepage

Education

University of Warwick

Jan. 2023 - present

o Ph.D. in Computer Science

Coventry, UK

o Advisors: Prof. Peter Triantafillou

• Research focus: Machine Learning, Machine Unlearning

Xi'an Jiaotong University

Sep. 2019 - Jun. 2022

• M.Sc. in Control Engineering

Xi'an, China

Lille, France

o Advisors: Prof. Chao Shen, Prof. Meng Zhang, Prof. Xiaohong Guan

Member of MOE Key Lab for Intelligent Networks and Network Security

• GPA: 3.72/4.0 (Top 1%)

École Centrale de Lille Jul. 2017 - Jun. 2019

M.Eng. in General Engineering (Diplôme d'Ingénieur Généraliste)

o Double Master's Degree Program

Xi'an Jiaotong University Sep. 2015 - Jun. 2019

• B.Eng. in Computer Science and Technology Xi'an, China

Publications & Patents

- What makes unlearning hard and what to do about it. <u>Kairan Zhao</u>, Meghdad Kurmanji, George-Octavian Bărbulescu, Eleni Triantafillou, Peter Triantafillou. *NeurIPS 2024* (link)
- **Scalability of memorization-based machine unlearning.** <u>Kairan Zhao</u>, Peter Triantafillou. *NeurIPS* 2024 Workshop on Fine-Tuning in Modern Machine Learning: Principles and Scalability (FITML) (link)
- Are we making progress in unlearning? Findings from the first NeurIPS unlearning competition. Eleni Triantafillou, Peter Kairouz, Fabian Pedregosa, Jamie Hayes, Meghdad Kurmanji, <u>Kairan Zhao</u>, Vincent Dumoulin, Julio Jacques Junior, Ioannis Mitliagkas, Jun Wan, Lisheng Sun Hosoya, Sergio Escalera, Gintare Karolina Dziugaite, Peter Triantafillou, Isabelle Guyon. *arXiv* (link)
- A Secure Intra-Regional-Inter-Regional Peer-to-Peer Electricity Trading System for Electric Vehicles. Kairan Zhao, Meng Zhang, Rongxing Lu, Chao Shen. IEEE Transactions on Vehicular Technology (2022) (link)
- o Blockchain-Enabled EV P2P Electricity Trading Method, System and Equipment. Meng Zhang, Kairan Zhao, Chao Shen, Xiaohong Guan. 2023122701442020 (link)

Professional Service

NeurIPS 2023 Machine Unlearning Competition (NeurIPS Page, Project Page, Kaggle)

Competition organizer

- o Developed unlearning baselines and attack models, integrating a unified API
- Reviewed participant code submissions for rule compliance and technical precision

Reviewer

- o Conferences: ICLR 2025, AISTATS 2025, NeurIPS 2024
- o Journals & Academic Events: WPCCS, IEEE Robotics & Automation Magazine

Programme Committee

WPCCS (Warwick Postgraduate Colloquium in Computer Science) 2023

Experience

Department of Computer Science, University of Warwick Senior Teaching Assistant Oct. 2023 - present CS331 Neural Computing CS342 Machine Learning CS130 Mathematics for Computer Scientists Morgan Sports Law & Warwick Business School Data Scientist (Part-time) Mar. 2024 - Jul. 2024 Designed and implemented Data Science and Machine Learning solutions for automated text extraction, analysis, and preparation using large, unstructured datasets Developed and fine-tuned Large Language Models (LLMs) to enhance text processing workflows o Provided technical expertise and infrastructure support to partner organizations SPRITZ Group (Security and Privacy Research Group) Research Assistant *Jun.* 2022 - Nov.2023 o Advisors: Prof. Mauro Conti, Dr. Alessandro Brighente o Conducted research on security and privacy in Cyber-Physical Systems **Honors & Awards** Computer Science Centre for Doctoral Training and Research Scholarships 2023 - 2027• Value: Tuition fees, stipend, travel expenses Postgraduate & Undergraduate Academic Awards 2015 - 2022• Excellent Student Leader of the Year (Top 3%) • Excellent Student of the Year (Top 5%) • First-class Scholarship (Top 5%) o Outstanding Social/Student Affairs Worker National College Student Innovation & Entrepreneur Competition 2021 • Bronze medallist (Business Proposal for Intelligent Hotel Management Platform) "Huawei Cup" 17th China Postgraduate Mathematical Contest in Modeling 2021 • National Third Prize (EEG Signal Analysis and Discriminant Model) 2017 - 2019China Scholarship Council (CSC) Scholarship Selected through a rigid academic evaluation process organized by CSC Chinese High School Mathematics League 2015 National Third Prize Selected Talks What makes unlearning hard and what to do about it Dec. 2024 NeurIPS 2024 Scalability of memorization-based machine unlearning Dec. 2024 NeurIPS 2024 FITML Workshop What makes unlearning hard and what to do about it Dec. 2024 NeurIPS@Paris 2024 Nov. 2024 What makes unlearning hard and what to do about it Statistics, Probability, Analysis and Applied Mathematics Seminar

What makes unlearning hard and what to do about it Advanced Topics in Machine Learning WMLG reading group

Nov. 2024

A Closer Look at Data Overlap in the Difficulty of Unlearning

Warwick Postgraduate Colloquium in Computer Science

Extracurricular Activities

Student Staff Liaison Committee (SSLC), University of Warwick

May. 2023 - present

Dec. 2023

Served as a representative of Computer Science PGR (Postgraduate Researcher) SSLC

ITCILO Winter Global Youth Forum 2021 & Internship Training Program Jan. 2021 – Feb. 2021

- o Participated in training activities with other global youth leaders within International Labour Organization
- Led a team to complete the training project and was selected as "Excellent Group Leader"

Global Governance Course

Nov. 2020 - Jan. 2021

Advisor: Prof. Slav W. Hermanowicz, UC Berkeley

• Completed the course "Sustainable Development and Entrepreneurship: Ethics, Physics and Technology" with a score of 87/100 and was selected as "Excellent Student"

Sino-French Communication Student Association

Sep. 2019 - Oct. 2020

o Minister of Literature and Art Department

Volunteer for "Heart to Heart" Organization

Sep. 2015 - Jun. 2017

Completed more than 30 hours of volunteer work

Skills

- **Programming Languages & Developer Tools:** Python, CUDA, Matlab, Linux, Git, Java, C, LAT_EX, Microsoft Office suite, etc.
- Libraries: PyTorch, Keras, Scikit-learn, Pandas, NumPy, Matplotlib, etc.
- Languages: Mandarin: Native; English: Advanced; French: Advanced; Spanish: Beginner

3/3