Kairan ZHAO

MB 4.17 – University of Warwick – Coventry, UK
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LinkedIn | Google Scholar | GitHub | Homepage

Education

University of Warwick — **Jan. 2023 - present**
Coventry, UK
- Ph.D. in Computer Science
- Advisors: Prof. Peter Triantafillou
- Research focus: Machine Learning, Machine Unlearning

Xi'an Jiaotong University — **Sep. 2019 - Jun. 2022**
Xi'an, China
- M.Sc. in Control Engineering
- 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**
Lille, France
- M.Eng. in General Engineering (Diplôme d'Ingénieur Généraliste)
- Double Master's Degree Program

Xi'an Jiaotong University — **Sep. 2015 - Jun. 2019**
Xi'an, China
- B.Eng. in Computer Science and Technology

Publications & Patents

- **What makes unlearning hard and what to do about it.** Kairan Zhao, Meghdad Kurmanji, George-Octavian Bărbulescu, Eleni Triantafillou, Peter Triantafillou. *NeurIPS 2024* (link)

- **Scalability of memorization-based machine unlearning.** Kairan Zhao, 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, Kairan Zhao, 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)

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

Reviewer
- **Conferences**: ICLR 2025, AISTATS 2025, NeurIPS 2024
- **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
- Provided technical expertise and infrastructure support to partner organizations

SPRITZ Group (Security and Privacy Research Group)
Research Assistant   *Jun. 2022 - Nov.2023*
- Advisors: Prof. Mauro Conti, Dr. Alessandro Brighente
- 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

NeurIPS@Paris 2024 Travel Grant   **2024**
- Value: 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%)
- 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)

China Scholarship Council (CSC) Scholarship   **2017 – 2019**
- 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

What makes unlearning hard and what to do about it   **Nov. 2024**
Statistics, Probability, Analysis and Applied Mathematics Seminar

What makes unlearning hard and what to do about it   Nov. 2024
Advanced Topics in Machine Learning WMLG reading group

A Closer Look at Data Overlap in the Difficulty of Unlearning   Dec. 2023
Warwick Postgraduate Colloquium in Computer Science

Extracurricular Activities

Student Staff Liaison Committee (SSLC), University of Warwick   May. 2023 – present
- Served as a representative of Computer Science PGR (Postgraduate Researcher) SSLC

ITCILO Winter Global Youth Forum 2021 & Internship Training Program   Jan. 2021 – Feb. 2021
- 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
- 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, LaTeX, Microsoft Office suite, etc.

- **Libraries:** PyTorch, Keras, Scikit-learn, Pandas, NumPy, Matplotlib, etc.

- **Languages: Mandarin:** Native; **English:** Advanced; **French:** Advanced; **Spanish:** Beginner