Kai Zhi TEH

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Education

PhD Statistical Science - University College London   2022-

Researching graphical causal inference, covering:

- Causal discovery
  Researching validity conditions of general causal discovery algorithms, developing novel algorithms valid beyond standard assumptions.
- Robust causal effect identification
  Establishing identification criteria robust to structural ambiguity of causal graphs.
- Probabilistic modelling of causal graphs
  Introducing time series probabilistic models for a generalised class of graphical models, enabling causal analysis and graphical calculus of confounded dynamical systems.

MEng Engineering Science - St Peter's College, University of Oxford   2017-2021

First Class Honours.

2020-2021	Computer Vision, Machine Learning, Optimisation, Systems Control and Dynamics.
	4th Year Research Project
	Graph Compression
2019-2020	Control Systems, Signal Processing, Software Engineering, Bio-mechanics and Bio-medical.
	3rd Year Group Project
	Advanced Photonics Manufacturing Platform (adaptive optical confocal microscopy)

Experience

University College London, UK   Feb 2022-
Postgraduate Teaching Assistant

Conducting undergraduate tutorials, demonstrations and marking exercises.

Modules include :	STAT0002(Introduction to Probability and Statistics)
	STAT0007(Stochastic Processes)
	BIOS0019(Life Sciences Foundation)

Dell-Oxford Artificial Intelligence Society Summer Project   Jul 2021

Implementing reinforcement learning approaches in Python to Dell business cases of selling technology as a service, particularly product-seller interaction.

Collaborated with business team of the project to produce business analytics of the project.

St Peter's College, University of Oxford, UK   Feb 2020
Open Day Student Outreach Helper

Guiding A-Levels students around campus, and answering questions about life in University.

SingHealth Duke-NUS Institute of Precision Medicine, Singapore   Jul-Aug 2019
Research Intern

Implementing LD Pruning on genotype samples.

Expanding upon previous year's work by verifying a recent correlation study of SNP (Single Nucleotide Polymorphism) and telomere length amongst Singaporean Chinese.

Oxford Thermofluids Institute, University of Oxford, UK   Sep 2018
Software Intern

Fixing crash and reboot issues on engine temperature data measurement software in Python.

Implementing serial data communication through Python.

SingHealth Duke-NUS Institute of Precision Medicine, Singapore   Jul-Aug 2018
Research Intern

Implementing LMM (Linear Mixed Modelling) between genotype data on phenotype traits.

Implementing statistical tests (KS-Tests) on correlation data to be compared to previous studies.

Publications

Published/PrePrints

Teh, K.Z., Sadeghi, K. & Soo, T. (2025). *Towards robust causal effect identification beyond Markov equivalence*. International Conference on Machine Learning: Scaling Up Intervention Models. arXiv:2506.15561.
Teh, K.Z., Sadeghi, K. & Soo, T. (2024). *Localised natural causal learning algorithms for weak consistency conditions*. In: Proceedings of the 40th Conference on Uncertainty in Artificial Intelligence. arXiv.2402.14775, 2024.
Teh, K.Z., Sadeghi, K. & Soo, T. (2024). *A general framewok on constraint-based causal learning*. Major revision, Scandinavian Journal of Statistics. arXiv:2408.07575, 2024.

In Preparation

Teh, K.Z., Sadeghi, K. & Soo, T. (2025+). Causal interpretations of anterial graphs.

Presentations

Posters

May 2025	Causal Interpretation of Anterial Graphs and Constrained Confounder Selection, **American Causal Inference Conference 2025**, Detroit
Jul 2024	Localised Natural Causal Learning under Weak Conditions, **2024 Conference on Uncertainty in Artificial Intelligence**, Barcelona
Apr 2024	A General Framework for Constraint-based Causal Learning, **European Causal Inference Meeting 2024**, Copenhagen

Talks

Jun 2025	Causal Interpretation of Anterial Graphs and Constrained Confounder Selection, **UCL Statistical Science PhD Seminars**, London
Apr 2025	Causal Interpretation of Anterial Graphs and Constrained Confounder Selection, **European Causal Inference Meeting 2025**, Ghent
May 2024	Relaxing the Faithfulness Assumption in Causal Inference, **UCL Statistical Science PhD Seminars**, London
Dec 2023	A General Framework for Causal Learning Algorithms, **2023 IMS International Conference on Statistics and Data Science**, Lisbon
Sep 2023	The Role of Ordering in Causal Inference, **RSS International Conference 2023**, Harrogate

Organisational Duties

UCL-ELLIS CSML Seminar Series 2022-

Invited and organised academic speaker seminars in computational statistics and machine learning.
`https://ucl-ellis.github.io/jt_csml_seminar_home/`

Oxford Artificial Intelligence Society Committee 2017-2020

Hosted speaker events from corporations and academics in AI.
`https://tinyurl.com/wjk4g5m`
`http://tiny.cc/h2ngaz`

Awards

2022-2025	UCL Postgraduate Teaching Assistant Studentship
2017-2021	Verdant Foundation - Cheng Kin Ku Scholarship

Relevant Skills

Language

English	Fluent
Mandarin	Native
Malay	Grade A Proficiency in Malaysian O Levels (SPM)
Cantonese	Conversational