# ZENG QIUHAO

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## Professional Summary

Fourth-year PhD student at the University of Western Ontario, Machine Learning Group, under Prof. Boyu Wang and Prof. Charles Ling (CAE). Research focuses on:

• Efficient transformer utilizing Triton kernels. • Transfer learning in dynamic temporal domains.

Past experience includes working as a Research Associate in the Brain-Computer Interface Group at Nanyang Technological University under IEEE Fellow Prof. Cuntai Guan, focusing on EEG signal processing and classifications.

## Education

- **PhD in Computer Science**, University of Western Ontario — Jan 2022 – Present
  - Research on domain generalization, temporal data modeling, and novel transformer architectures.
  - Supervised by Prof. Boyu Wang and Prof. Charles Ling.
- **M.Sc in Electrical Engineering**, National University of Singapore — Aug 2017 – Jun 2018
  - Specialized in signal processing and machine learning applications.
- **Bachelor in Engineering Mechanics**, Harbin Institute of Technology — Sep 2013 – Jul 2017

## Work Experience

- **Software Engineer**, LITEON Singapore — Jul 2018 – Mar 2019
  - Developed machine vision algorithms for camera manufacturing testing and validation.
- **Research Associate**, Nanyang Technological University — Mar 2019 – Jun 2021
  - Develop rehabilitation games on EEG-based brain-computer interfaces.
  - Designed domain generalization algorithms for robust classification across users.

## Publications

- **ZETA: Leveraging $Z$-order Curves for Efficient Top-$k$ Attention**, ICLR 2025, *The first author.*
- **Towards Understanding Evolving Patterns in Sequential Data** (**Spotlight**), NeurIPS 2025, *The first author.*
- **Latent Trajectory Learning for Limited Timestamps under Distribution Shift**, ICLR 2024 (**Oral, top 1.2%**), *The first author.*
- **Generalizing across Temporal Domains with Koopman Operators**, AAAI 2024, *The first author.*
- **Foresee What You Will Learn: Data Augmentation for Domain Generalization**, AAAI 2023, *The first author.*
- **Episodic Task-Agnostic Contrastive Training for Multi-Task Learning**, Neural Networks, 2023.
- **LGGNet: Learning from Local-Global-Graph Representations for Brain-Computer Interface**, IEEE TNNLS.
- **On the Benefits of Attribute-Driven Graph Domain Adaptation**, ICLR 2025.

## Patent

- **Mental Arousal Level Regulation System and Method**, PCT Patent no. PCT/SG2022/050243 (2022).

## Research Activities

- Reviewer: AISTATS, ICLR, ICML, NeurIPS (Top Reviewer), TMLR.
- Teaching Assistant: CS3346 (AI), CS2210 (Data Structures), CS3357 (Networks).