KAIYAN ZHENG

(She/Her)

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Education

University of Michigan, Ann Arbor   **Ann Arbor, Michigan**
Department of Mathematics; Department of Statistics   *Expected Graduation: May 2026*

- *Transferred from The Chinese University of Hong Kong, Shenzhen (Financial Engineering - Quantitative Finance)*
- **Program:** BS Mathematics; BS Statistics; BS Data Science.
- **mGPA:** 3.87 (University Honors, 2024)
- **Core Coursework:** Statistical Theory, Experimental Design, Regression Analysis, Mathematical Analysis, Optimization, Data Structures & Algorithms, Database Systems, Stochastic Processes, Statistical Computing, Differential Equations, Computer Organization

Research Projects

Federated Unlearning with Gradient Descent and Conflict Mitigation   **AAAI 2025**
*Zibin Pan, Zhichao Wang, Chi Li, **Kaiyan Zheng**, Boqi Wang, Xiaoying Tang, Junhua Zhao*   *May 2024 – Aug 2024*

- Conducted research at the Laboratory of Energy Internet under Prof. Junhua Zhao, focusing on privacy-preserving machine learning and optimization in federated systems.
- Heavily involved in experiment implementation, developed core coding frameworks, and designed all illustrations and algorithm flowcharts. Actively contributed to the rebuttal phase, refining arguments and addressing reviewer feedback.
- *Paper available on arXiv.*

Machine Learning Meets Micro-robotics   **Review Article**
With Jiachun Zheng et al.   *Oct 2023 – Jul 2024*

- At the Medical Micro-Robotics Laboratory under Prof. Zhuoran Zhang, focusing on learning-based planning strategies.
- Responsible for the Planning section of a review article, analyzing recent advancements in reinforcement learning, motion optimization, and adaptive decision-making for micro-robot trajectory planning and environmental interaction.

Teaching Experience

School of Data Science, CUHK(SZ)   **Shenzhen, China**
Undergraduate Student Teaching Fellow, CSC1001   *Sept 2023 – Dec 2023*

- Designed and graded assignments, led weekly lab sessions, held office hours, for a Python course with 1000+ students.

School of Data Science, CUHK(SZ)   **Shenzhen, China**
Academic Mentor & Coordinator, University Freshmen Winter Camp   *Feb 2024*

- Taught introductory machine learning to 250+ incoming freshmen. Organized scheduling and lecture materials.

Awards

- CUHK(SZ) Bowen Scholarship (2022–2024)
- CUHK(SZ) Dean's List (2022–2024)
- Second Prize, China Undergraduate Mathematical Contest in Modeling (2023)
- First Prize, China National High School Biology Olympiad (2021)

Skills

- **Programming Languages:** Python, C&C++, Java, MATLAB, R, SQL, LaTeX
- **Frameworks:** PyTorch · matplotlib · Tensorflow · NumPy · pandas · scikit-learn · CVX · Gurobi · streamlit