

# KAIYAN ZHENG

Personal Resumé

(She/Her)

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🐙 <https://katherynzheng.github.io>

## Education

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### The University of Michigan, Ann Arbor

Ann Arbor, Michigan

*Junior, August 2024 - Present*

- **Department:** College of Literature, Science and the Arts
- **Program:** B.S. in Data Science & Mathematical Sciences
- **Coursework:** EECS 370 (Computer Organization), EECS 281 (Data Structures & Algorithms), DATASCI 306 (Statistical Computing), MATH 423 (Mathematics of Finance)

### The Chinese University of Hong Kong, Shenzhen

Shenzhen, China

*September 2022 - July 2024*

- **Department:** School of Data Science
- **GPA:** 3.6 (Top 20%, 2022-2024 Dean's List)
- **Program:** Financial Engineering - Quantitative Finance
- **Core Coursework:** C/C++ Programming, Database Systems, Data Structures, Stochastic Processes, Ordinary Differential Equations, Optimization, Discrete Mathematics, Probability and Statistics

## Awards

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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

## Research Projects

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### Federated Unlearning with Gradient Descent and Conflict Mitigation

With Zibin Pan et al.

*Research Paper Project (Submitted)*

*May. 2024 to Aug. 2024*

- At Laboratory of Energy Internet supervised by Prof. Junhua Zhao
- Our proposed FedOSD introduces an unlearning cross entropy loss and calculates an orthogonal steepest descent direction, improving unlearning efficiency and maintaining model utility, which is verified by extensive experiments.

### Machine Learning Meets Micro-robotics

With Jiachun Zheng et.al.

*Review Article (To be submitted)*

*Oct. 2023 To Present*

- At Medical Micro-Robotics Laboratory supervised by Prof. Zhuoran Zhang
- Discussed about the recent innovations in learning-based micro-robots, especially in the medical robotics field.
- Responsible for the Planning section in the review

## Academic Experience

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### School of Data Science, CUHK(SZ)

Shenzhen, China

*Undergraduate Student Teaching Fellow of CSC1001*

*Sept. 2023 to Dec. 2023*

- CSC1001 [Introduction to Computer Science: Programming Methodology]: Introductory Python course
- Engage in homework grading design for 1000+ students
- Holding labs every week, answering questions for students online and offline

### School of Data Science, CUHK(SZ)

Shenzhen, China

*Academic Mentor and Academic Coordinator for Future Freshman Winter Camp*

*Feb. 2024*

- Conducted lectures to 250+ students (Introductory Machine Learning) for introducing university courses during the winter camp
- Planned and managing the lecture time slots and materials