Xiaokun (Ken) Zhong

+86-138-2319-7666 xzhongal@berkeley.edu linkedin.com/in/xiaokun-ken-zhong github.com/Kenxzk

Education

Hong Kong University of Science & Technology (HKUST) Sep 2022 – Jun 2026 (Expected)
BSc in Mathematics (Computer Science Track) *Kowloon, Hong Kong*

- Relevant Coursework: Honors Calculus I & II, Linear Algebra, Real Analysis, Artificial Intelligence, Data Structures & Algorithms, Differential Equations.

University of California, Berkeley Jun 2023 – Aug 2023
Summer Session Exchange *Berkeley, CA*

- Course: CS61A (Structure and Interpretation of Computer Programs)

Research Experience

Dartmouth College Feb 2025 – Present
Research Assistant, Advisor: Prof. Yaoqing Yang *Hanover, NH*

- Analyzed the performance of advanced optimizers (e.g., MultiAdam) to identify and characterize failure modes in challenging, high-stiffness PDE regimes.
- Implemented and evaluated adaptive sampling methods (RoPINN) to improve model robustness and mitigate training failures in data-sparse training regimes.
- Leveraged second-order methods like Newton-CG (NNCG) to navigate complex loss landscapes, achieving up to a 50% reduction in test error over baseline optimizers in difficult regimes.

HKUST Undergraduate Research Program (UROP) Feb 2023 – May 2025
Research Assistant, Advisors: Prof. Hao Chen & PhD Zelin Qiu *Kowloon, Hong Kong*

- Designed and trained deep learning models for medical image analysis, specifically focusing on accelerating MRI reconstruction using convolutional neural networks (e.g., U-Net architectures).
- Assisted in achieving a comprehensive and stable solution for rebuilding 3D human models from varying 2D MRI slices using deep learning techniques, contributing to a potential open-source library for medical imaging.

Publications

Y. Hu, H. Lu, Y. Wang, X. Wang, **X. Zhong**, *et al.* "Loss Landscape Analysis of Scientific Machine Learning Models." *Unpublished Manuscript*, 2025.

Industry Experience

StarMerx International Inc. Jun 2024 – Aug 2024
Trader Intern *Shenzhen, Guangdong*

- Scraped and analyzed YouTube trend data using Python to identify market opportunities.
- Developed data-driven ad placement algorithms using Python and Shopify APIs.

Agricultural Bank of China Jan 2024 – Feb 2024
IT Intern *Shenzhen, Guangdong*

- Contributed to the development and testing of secure eCNY (digital currency) wallet features.

Relevant Projects & Leadership

HKUST RoboMaster Team Oct 2022 – Jun 2023
Software Engineer *Kowloon, Hong Kong*

- Built a computer vision system for QR code scanning and target identification using Python and OpenCV for an autonomous robot.
- Programmed low-level motor controls and sensor integration in C++ on embedded hardware.

SAGA Voluntary Teaching Organization Sep 2022 – Present
Team Leader & Instructor *Kowloon, Hong Kong*

- Managed and coordinated 200+ volunteer teachers for a non-profit providing education to children with leukemia.

Skills

Programming Languages: Python, C++, SQL, MATLAB | **AI Frameworks:** PyTorch, TensorFlow, Scikit-learn, OpenCV, JAX | **Developer Tools:** Git, Docker, Slurm, LaTeX, Neovim | **Languages:** English (Fluent), Mandarin (Native), Cantonese (Intermediate)