Chen Yao

Email: is.chenyao@gmail.com | Phone: (617)870-9424 | Web: linkedin.com/in/chen-yao-09978419a

Applied math researcher expertising in math modelling and large-scale computational problem solving in math biology, machine learning and finance, coupled with exceptional teamwork and leadership spirits.

Education

Boston University — Boston, MA
Doctor of Philosophy in Statistics (GPA: 4.0) — 09/2023 – (Exp) 07/2028
Courses: Advanced Stochastic Process, Partial Differential Equations (PDE), Numerical PDE

University of California, San Diego — La Jolla, CA
Master of Arts in Applied Mathematics (GPA: 4.0) — 09/2021 – 07/2023
Courses: Mathematical Statistics, Numerical Optimization, Machine Learning (ML)

Nankai University — Tianjin, China
Bachelor of Science in Mathematics and Applied Mathematics — 08/2016 – 07/2020

Research

Research Assistant — 04/2024 - Present
Supervisor: Professor Kostantinos Spiliopoulos & Samuel Isaacson — Boston University

- To be fulfilled

Research Assistant in ML & AI — 07/2022 - 07/2023
Professor Lily Weng's Robust and Trustworthy AI Research Lab — HDSI, UCSD

- Created Fed-CLIP, an innovative federated deep learning model, which enables decentralized mobile devices to collaboratively train a high-performance neural network, integrating vision and language understanding while safeguarding user privacy.
- Fed-CLIP achieved remarkable accuracy, hitting 95.4% on CIFAR-10 and 89.6% on highly unbalanced datasets, a challenging but realistic scenario where standard models often falter.

Research Assistant - Yang Lab in Bioinformatics, Nankai University
Supervisor: Professor Jianyi Yang — 09/2020 - 06/2021

- Created a program to align atomic protein structures with cryo-EM electronic density maps by optimizing objective function measuring differences between two structures based on BFGS method.
- Developed 3D structures from 2D cryo-EM electronic density maps by utilizing ReLion, cryoSPARC, and Chimera.

Teaching

Teaching Assistant — 09/2023 - Present
The Mathematics and Statistics Department — Boston University

2023 Fall	CAS MA 411	Advanced Calculus
2024 Spring	CAS MA 416	Analysis of Variances

Skills

Mathematical Modelling
Expertise in analysis and modelling via statistics, stochastic processes and differential equations, and solving large-scale problems by high-efficiency numerical methods.
Machine Learning Techniques
Proficient in using ML frameworks (PyTorch/TensorFlow/scikit-learn) to realize regression, classification, clustering and advanced deep learning methods to solve real-world problems.
Programming Languages: Python(NumPy/Pandas/Matplotlib), R, MATLAB, SQL, Git
Other Technical Skills: Cloud computing via Jupyter and AWS, visualisation , version control