Gaoming (Carsten) Chen

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Education

Johns Hopkins University, Department of Applied Mathematics and Statistics — Baltimore, MD
Ph.D. in Applied Mathematics (in progress) — Aug 2024 – Present
- Supervisor: Fadil Santosa

Johns Hopkins University, Department of Applied Mathematics and Statistics — Baltimore, MD
Visiting Undergraduate Student — Sep 2023 – Dec 2023
- Supervisor: Fadil Santosa

Renmin University of China, School of Mathematics — Beijing, China
B.S. in Mathematics (Honor) — Aug 2020 – June 2024
- Cumulative GPA: 3.90/4.00

Publications

G. Chen, F. Santosa, A. Titi, Determination of a small elliptical anomaly in electrical impedance tomography using minimal measurements, *Inverse Problem* **40** (2024) 115006.

Research Experience

Johns Hopkins University
Experimental Design for EIT, advised by Fadil Santosa — Sep 2023-Dec 2023
- Exploring Bayesian Experimental Design for Electrical Impedance Tomography (EIT), employing Python and leveraging PyTorch for acceleration.
- Analyzing the Stability of the Inverse Operator in the EIT model, utilizing Symbol Python for expression simplification.

Columbia University
Parallel Matrix eQTL, advised by Qi Yan — Apr 2023 – Sep 2023
- Executing Expression Quantitative Trait Loci (eQTL) analysis by implementing the Matrix eQTL algorithm in Python, employing parallel computation through a divide-and-conquer strategy.
- Exploring Graph Neural Networks and their application in processing high-omics data.

Renmin University of China
Optimal Transport and its Application, advised by Shanwen Wang — May 2022 - April 2023
- Exploring Optimal Transport (OT) Theory and its application in 3D object detection.
- Investigating the hierarchical structure of OT, effectively incorporating the prior distribution of labels.
- Studying the Gromov-Wasserstein distance and its relevance to the geometrical property of 3D structures.

Teaching

Johns Hopkins University
- EN.553.636 Introduction to Data Science (Teaching Assistant) — Fall 2024

Service

Johns Hopkins University
- AMS First-year Ph.D. Student Seminar, Organizer — Fall 2024

Skills

Languages: Latex, Python, C/C++