

YAN HUANG

School of Mathematics, University of Minnesota, Minneapolis, MN 55455

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RESEARCH INTERESTS

Scientific Computing, Numerical Analysis, Applied Mathematics, Scientific Machine Learning

EDUCATION

University of Minnesota - Twin Cities

Minneapolis, MN

Ph.D. in Mathematics

Aug. 2023 -

Southern University of Science and Technology (SUSTech)

Shenzhen, China

B.S. in Mathematics and Applied Mathematics (Honors Program)

Aug. 2019 - Jun. 2023

GPA: 3.81/4 (91/100)

Thesis: Discrete Micro-Macro Decomposition Based Deep Learning Approach for Linear Transport Equation, Advisor: Prof. Zhen Zhang

SKILLS

- **Computer:** MATLAB, Python, PyTorch, Java, LaTeX
- **Language:** Chinese (native), English

RESEARCH EXPERIENCE

Acceleration of Variable Frequency Fourier Transform

SUSTech, Summer 2022

- Developed an acceleration algorithm of variable frequency Fourier transform with Prof. Zhen Zhang.

SEMINARS

Wassertein Gradient Flows

SUSTech, Spring 2023

- Studying J. A. Carrillo et al.'s paper *Primal Dual Methods for Wasserstein Gradient Flows*.
- Presented and led the discussion on the Wasserstein spaces.

Neural Differential Equations

SUSTech, Spring 2022

- Studied Patrick Kidger's doctoral thesis *On Neural Differential Equations* and related work.
- Presented and led the discussion on the Numerical Solvers for Neural Differential Equations.

Statistical Learning

SUSTech, Summer 2021

- Studied Trevor Hastie et al.'s book *The Element of Statistical Learning* and Shai Shalev-Shwartz et al.'s book *Understanding Machine Learning: From Theory to Algorithms*.
- Presented and led the discussion on the Ridge Regression and Lasso; studied the Probably Approximately Correct (PAC) learning theory.

Fourier Analysis

SUSTech, Summer 2021

- Studied Elias M. Stein et al.'s book *Fourier Analysis*.
- Presented and led the discussion on the Convergence of Fourier Series and Fourier Transforms of d -dimensional Euclidean Spaces.

SCHOLARSHIPS & AWARDS

- SUSTech Second Class of the Merit Student Scholarship Nov. 2022
- First Class Award of the 13th National College Students Mathematics Competition (Guangdong) Dec. 2021
- SUSTech Second Class of the Merit Student Scholarship Nov. 2021
- SUSTech Third Class of the Merit Student Scholarship Nov. 2020
- SUSTech Third Class of the Freshman Scholarship Nov. 2019

TEACHING EXPERIENCE

Department of Mathematics, SUSTech

- Teaching Assistant, MA327 Differential Geometry

Spring 2022