

YAN HUANG

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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