

Zheng Tan

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EDUCATION

The University of California, Los Angeles (UCLA)

Los Angeles, CA

School of Liberal Arts and Science

Expected 06/2023

B.S. and M.A. in Applied Math

GPA: **3.99/4.0**

Core Courses: Linear Algebra, Analysis, Numerical Analysis, Ordinary Differential Equations, Mathematical Network, Numerical Analysis (graduate), Numerical Linear Algebra (graduate), Finite Element Method (graduate), Applied ODE and PDE (graduate)

PUBLICATION AND PRINT

Zheng Tan, Longxiu Huang, Yifei Lou. Non-convex approaches for low-rank tensor completion, ICASSP 2023

James Chapman, Bohan Chen, **Zheng Tan**, Jeff Calder, Kevin Miller, Andrea Bertozzi. Novel Batch Active Learning Approach and Its Application on the Synthetic Aperture Radar Datasets, SPIE Conference DCS108 (best student paper)

ACADEMICAL EXPERIENCE

Tensor Completion and Image Processing

Los Angeles, CA

Researcher

03/2022-01/2023

- Used non-convex L1-L2 based ADMM method to achieve lower error in the low sampling ratio case.
- Extended matrix CUR completion method to its tensor version with resampling procedure; reduced the completion time by around 100 times.
- Outperformed classical colored image reconstruction method in accuracy.
- Published in ICASSP 2023 conference.

UCLA Applied Math REU: Active Learning

Los Angeles, CA

Researcher

06/2022-08/2022

- Ameliorated the existing active learning process of SAR satellite image classification algorithm.
- Utilized transfer learning as unsupervised data embedding for graph-based Laplace learning.
- Replaced sequential active learning by batch learning to improve time efficiency by 15 times and exceeded state-of-the-art accuracy results with fewer amount of training data.
- Won the conference best student paper award.

Directed Reading Program

Los Angeles, CA

Mentee

01/2022-06/2022

- Learned measure theory, functional analysis, and related applications with the lead of a Ph.D. candidate in analysis.
- Participated in weekly discussions and discussed progress.
- Gave a presentation on strict inductive limit topology.

TEACHING EXPERIENCE

UCLA Olga Radko Endowed Math Circle

Online

Assistant Instructor

09/2021-Present

- Teach various topics in elementary math to 9-11 grades students, including but not limited to combinatorics, dynamic systems, and abstract algebra.
- Prepare lessons with instructors.

UCLA Department of Mathematic

Online&In person

Grader

09/2020-12/2020

- Graded homework in Linear Algebra Class (Math 33A).
- Assisted the professor in analyzing the weak part of student's knowledge and designing further teaching plan.

Teaching Assistant

09/2023-12/2023

- Teach introduction to Python (PIC 16A) discussion sections and hold office hours at UCLA

HONORS AND AWARDS

- Math Department Scholar Program: receive B.S./M.S. degree within four years.
- Math Department Honor Program.
- 2023 Daus Memorial Award.

LANGUAGES & SKILLS

Languages: Fluent in English, Native in Mandarin

Computer skills: MATLAB, Python, C++, Java, JavaScript, R, LaTeX