

# Qihao Ye

UNIVERSITY OF CALIFORNIA SAN DIEGO

9500 Gilman Drive, La Jolla, CA 92093-0021

☎ (+1) 858-241-1304 | ✉ q8ye@ucsd.edu | 🏠 <https://yee172.com/> | 📺 Yee172

## Education

### UC San Diego (University California, San Diego)

PH.D. IN MATHEMATICS

La Jolla, California, United States

July 2022 – Jun 2026

### UC San Diego (University California, San Diego)

M.A. IN MATHEMATICS (APPLIED)

La Jolla, California, United States

Sep 2020 - Jun 2022

### SUSTech (Southern University of Science and Technology)

B.S. IN MATHEMATICS AND APPLIED MATHEMATICS

Shenzhen, Guangdong, China

Sept 2016 - Jun 2020

## Professional Experience

### Columbia University

CHU ASSISTANT PROFESSOR OF APPLIED MATHEMATICS IN THE DEPARTMENT OF APPLIED PHYSICS AND APPLIED MATHEMATICS

New York, New York, United States

July 2026 -

### Oak Ridge National Laboratory

GRADUATE RESEARCH AT ORNL (GRO) PROGRAM INTERN

Oak Ridge, Tennessee, United States

Jun 2025 - Sep 2025

## Publications

### REFEREED JOURNAL PAPERS

YE, Q., TIAN, X., WANG, D. *A Fast and Accurate Solver for the Fractional Fokker-Planck Equation with Dirac-Delta Initial Conditions*. **SIAM JOURNAL ON SCIENTIFIC COMPUTING** 48 (2), A1050-A1074, 2026. [🔗 <https://github.com/ACMathX/FPEDDIC>]

YE, Q., TIAN, X. *Monotone Meshfree Methods for Linear Elliptic Equations in Non-divergence Form via Nonlocal Relaxation*. **JOURNAL OF SCIENTIFIC COMPUTING** 96 (3), 85 (2023). [🔗 <https://github.com/ACMathX/MPS4PDEs>]

### ACCEPTED CONFERENCE PAPERS

AN, C., CHEN, Z., YE, Q., FIRST, E., PENG, L., ZHANG, J., WANG, Z., LERNER, S., SHANG, J. *Learn from Failure: Fine-Tuning LLMs with Trial-and-Error Data for Intuitionistic Propositional Logic Proving*. **ACL MAIN CONFERENCE LONG PAPERS** (2024). [🔗 <https://github.com/ucsd-atp/PropL>, 🗺️ <https://huggingface.co/datasets/KomeijiForce/PropL>, 🗺️ <https://huggingface.co/KomeijiForce/llama-2-7b-propositional-logic-prover>]

### SUBMITTED PAPERS

YE, Q., TIAN, X., ZHU, Y. *A Robust Model-Based Approach for Continuous-Time Policy Evaluation with Unknown Lévy Process Dynamics*. SUBMITTED TO **SIAM JOURNAL ON MATHEMATICS OF DATA SCIENCE**, 2025.

### DOCUMENTATION

AN, C., YE, Q., PAN, M., ZHANG, J. *QED: An Open-Source Multi-Agent System for Generating Mathematical Proofs on Open Problems*. 2026. [🔗 <https://github.com/proofQED/QED>]

### IN PREPARATION

YE, Q., BURKOVSKA, O., DU, Q., TIAN, X., ZHANG, G. *Learning Gradient Flow Dynamics from Particle Data*.

YE, Q.\*, GANGADHAR, G.\*, CHEN, Z., AN, C., FIRST, E., HUANG, Z., WANG, Z., LERNER, S., SHANG, J. *Mechanisms of Recursion: How Algorithmic Strategy Reshapes Internal Representations*.

YE, Q., DU, Q., TIAN, X. *A Meshfree Framework for Nonlocal Models with Heterogeneous Localization*.

YE, Q., TIAN, X., WANG, D. *A Fast and Accurate Solver for the Fractional Fokker-Planck Equation with Characteristic Initial Conditions*.

YE, Q., TIAN, X., ZHU, Y. *Robust Model-Free Approach for Continuous-Time Policy Evaluation with Unknown Compound Poisson Process Dynamic*.

## Professional Service

### REVIEWER FOR CONFERENCE

SIGGRAPH 2024

### REVIEWER FOR JOURNAL

SIAM JOURNAL ON SCIENTIFIC COMPUTING (SISC)

SIAM JOURNAL ON APPLIED MATHEMATICS (SIAP)

JOURNAL OF SCIENTIFIC COMPUTING (J. SCI. COMPUT.)

NUMERICAL METHODS FOR PARTIAL DIFFERENTIAL EQUATIONS

### ORGANIZING COMMITTEE MEMBER

SOUTHERN CALIFORNIA APPLIED MATHEMATICS SYMPOSIUM 2024 (SOCAMS 2024)

## Presentations

## CONFERENCE PRESENTATIONS (MT: Minisymposium Talk, PP: Poster Presentation)

[MT] SIAM CONFERENCE ON UNCERTAINTY QUANTIFICATION (SIAM UQ 2026)	March 22 - 25, 2026
[MT] SIAM TEXAS-LOUISIANA SECTIONAL MEETING 2025 (SIAM TXLA 2025)	September 26 - 28, 2025
[MT] THE 18TH U.S. NATIONAL CONGRESS ON COMPUTATIONAL MECHANICS (USNCCM18)	July 20 - 24, 2025
[MT] ENGINEERING MECHANICS INSTITUTE CONFERENCE 2025 (EMI 2025)	May 27 - 30, 2025
[MT] SOUTHERN CALIFORNIA APPLIED MATHEMATICS SYMPOSIUM 2025 (SOCAMS 2025)	April 26, 2025
[MT] MIDWEST NUMERICAL ANALYSIS DAY 2025 (MWNADAY 2025)	April 05 - 06, 2025
[MT] SIAM CONFERENCE ON COMPUTATIONAL SCIENCE AND ENGINEERING (CSE25)	March 03 - 07, 2025
[MT] 2025 JOINT MATHEMATICS MEETINGS (JMM 2025)	January 08 - 11, 2025
[PP] SIAM CONFERENCE ON MATHEMATICS OF DATA SCIENCE (MDS24)	October 21 - 25, 2024
[MT] THE 9TH ANNUAL MEETING OF SIAM CENTRAL STATES SECTION (CSS24)	October 05 - 06, 2024
[PP] LANL-CNLS WORKSHOP: SCALE BRIDGING	April 22 - 26, 2024
[PP] ICERM WORKSHOP ON NONLOCALITY: CHALLENGES IN MODELING AND SIMULATION	April 15 - 19, 2024
[MT] MIDWEST NUMERICAL ANALYSIS DAY 2024 (MWNADAY 2024)	April 13 - 14, 2024
[MT] 2024 SPRING SOUTHEASTERN SECTIONAL MEETING	March 23 - 24, 2024
[MT] 2024 JOINT MATHEMATICS MEETINGS (JMM 2024)	January 03 - 06, 2024
[MT] THE 8TH ANNUAL MEETING OF SIAM CENTRAL STATES SECTION	October 07 - 08, 2023
[MT] 2023 UNC GREENSBORO PDE CONFERENCE	June 09 - 11, 2023
[MT] THE ENGINEERING MECHANICS INSTITUTE CONFERENCE 2023 (EMI 2023)	June 06 - 09, 2023
[MT] THE 13TH AIMS CONFERENCE ON DYNAMICAL SYSTEMS, DIFFERENTIAL EQUATIONS AND APPLICATIONS	May 31 - June 04, 2023
[MT] SOUTHERN CALIFORNIA APPLIED MATHEMATICS SYMPOSIUM 2023 (SOCAMS 2023)	April 22, 2023
[MT] 2023 SPRING SOUTHEASTERN SECTIONAL MEETING	March 18 - 19, 2023
[MT] THE 7TH ANNUAL MEETING OF SIAM CENTRAL STATES SECTION	October 01 - 02, 2022
[PP] BIRS WORKSHOP: THEORETICAL AND APPLIED ASPECTS FOR NONLOCAL MODELS (22W5102)	July 17 - 22, 2022
[MT, PP] THE 19TH U.S. NATIONAL CONGRESS ON THEORETICAL AND APPLIED MECHANICS (USNCTAM2022)	June 19 - 24, 2022

## SEMINAR TALKS

UTK CAM SEMINAR	August 26, 2025
UCSD INFORMAL MATH AND ML SEMINAR	February 03, 2025
UCSD INFORMAL MATH AND ML SEMINAR	March 06, 2024
OSU STUDENT COMPUTATIONAL MATH SEMINAR	January 26, 2024
USTC SEMINAR	December 21, 2023
SUSTECH SEMINAR	December 12, 2023
UCSD CCoM SEMINAR	November 28, 2023
UCSD CCoM SEMINAR	February 14, 2023
OSU STUDENT COMPUTATIONAL MATH SEMINAR	January 20, 2023
SUSTECH SEMINAR	December 15, 2022

## UPCOMING

[MT] 2026 SIAM ANNUAL MEETING (AN26)	July 06 - 10, 2026
--------------------------------------	--------------------

## Teaching Experience

### UC San Diego (University California, San Diego)

*La Jolla, California, United States*

TEACHING ASSISTANT OF MATH 272A, NUMERICAL PARTIAL DIFFERENTIAL EQUATIONS	Fall 2022
TEACHING ASSISTANT OF MATH 270C, NUMERICAL ORDINARY DIFFERENTIAL EQUATIONS	Spring 2024, Spring 2026
TEACHING ASSISTANT OF MATH 270A, NUMERICAL LINEAR ALGEBRA	Fall 2023
TEACHING ASSISTANT OF MATH 179/279, PROJECTS IN COMPUTATIONAL AND APPLIED MATHEMATICS	Spring 2025
TEACHING ASSISTANT OF MATH 175/275, NUMERICAL METHODS FOR PARTIAL DIFFERENTIAL EQUATIONS	Winter 2023, Winter 2024, Winter 2025, Winter 2026
TEACHING ASSISTANT OF MATH 174/274, NUMERICAL METHODS FOR PHYSICAL MODELING	Fall 2023, Fall 2024
TEACHING ASSISTANT OF MATH 170C, INTRODUCTION TO NUMERICAL ANALYSIS: ORDINARY DIFFERENTIAL EQUATIONS	Spring 2025, Spring 2026
TEACHING ASSISTANT OF MATH 170A, INTRODUCTION TO NUMERICAL ANALYSIS: LINEAR ALGEBRA	Winter 2024, Fall 2025
TEACHING ASSISTANT OF MATH 20D, INTRODUCTION TO DIFFERENTIAL EQUATIONS	Fall 2022, Winter 2023, Spring 2023, Spring 2024, Winter 2025, Winter 2026
MENTOR OF DIRECTED READING PROGRAM IN MATHEMATICS	
• Mentee: Sumadhu Rubaiyat — Topic: GNNs to GraphSAGE	Summer 2024
• Mentee: Chengkai Yao — Topic: Zeroth and First Order Optimization Methods	Summer 2024
• Mentee: Jay Paek — Topic: Spectral Methods for Dimensionality Reduction	Spring 2024

## SUSTech (Southern University of Science and Technology)

TEACHING ASSISTANT OF MA333, INTRODUCTION TO BIG DATA SCIENCE

TEACHING ASSISTANT OF CS203, DATA STRUCTURE AND ALGORITHM ANALYSIS

Shenzhen, Guangdong, China

Spring 2020, Spring 2021

Fall 2019

## Extracurricular Activities

---

### SIAM Student Chapter at UC San Diego

FOUNDING PRESIDENT

La Jolla, California, United States

2026

### Competitive Programming Club at UC San Diego

CO-COACH

La Jolla, California, United States

2022 - 2026

- UCSD advanced to the ICPC World Finals in both 2023 and 2024, marking the first time since 2011 that the university reached the World Finals.

### The 1st / 2nd / 3rd SUSTech Programming Contest

CORE ORGANIZER

Shenzhen, Guangdong, China

Dec. 2018 / Dec. 2019 / Dec. 2020

### Times Higher Education Asia Universities Summit 2018

VOLUNTEER

Shenzhen, Guangdong, China

Feb. 2018

## Honors & Awards

---

2018 **Gold Award**, 2018 International Collegiate Programming Contest (ICPC) Asia Jiaozuo Regional Contest

Jiaozuo, China

2018 **Second Prize**, Asia Student Supercomputer Challenge (ASC) 2018

Nanchang, China

## Technical Skills

---

**ProjectEuler** Solved over 500 problems  
**Programming** Python, C++, C, Java, MATLAB, shell, JavaScript  
**Language** Chinese, English