

Kevin You

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Education

New York University
PhD in Computer Science

New York, NY
Aug 2025 - Present

Carnegie Mellon University
BS in Mathematical Sciences, Minor in Physics
BS in Computer Science, Minor in Computer Graphics
University Honors, MCS Research Honors, SCS College Honors

Pittsburgh, PA
Aug 2021 - May 2025

Preprints

- Theresa C. Anderson, David Phillips, Anastasiia Rudenko, Kevin You. Infinite intersections of doubling measures, weights, and function classes. Arxiv 2409.18230.
- Arindam Roy, Kevin You. Non-zero values of a family of approximations of a class of L-functions. Arxiv 2411.08364.

Research

Energy controllable time integration

Sep 2023 - May 2025

Carnegie Mellon University with Dr. Minchen Li

- Create new numerical time integration method with energy control for elastodynamic simulation
- Enable simulation of large deformations and barrier contact with comparable behavior to existing BDF2 methods while decreasing the simulation rate by up to over 100 times
- Perform theoretical stability analysis and restitution estimates for contact

Panel methods for computer graphics

May 2024 - Aug 2024

NSF IRES at University of Tokyo with Dr. Bo Zhu, Dr. Takeo Igarashi and Dr. Haoran Xie

- Extend aerodynamics solver to arbitrary meshes for efficient exterior fluid simulation

Next event estimation for walk on spheres

Sep 2023 - May 2024

Carnegie Mellon University with Dr. Ioannis Gkioulekas

- Improve sampling for Walk on Spheres PDE solver with physics-based rendering techniques
- Develop next event estimation and control variates for variance reduction

Intersection of doubling measures

Jan 2024 - May 2024

Carnegie Mellon University with Dr. Theresa Anderson

- Construct exotic measures with dyadic/ n -adic properties for applications to harmonic analysis
- Extended inequality from a finite family to an infinite family of function spaces

Zeros and a -values of approximations for a class of L -functions

May 2023 - Aug 2023

NSF REU at UNC Charlotte with Dr. Arindam Roy

- Generalized a family of approximations of L-functions and studied its zeros and a -values
- Proved new asymptotic density results on zeros and a -values

Multiplication in fractional Sobolev spaces

May 2022 - Aug 2022

Carnegie Mellon University with Dr. Giovanni Leoni

- Developed elementary proof to pointwise multiplication in fractional Sobolev spaces in 1D
- Strengthened known results in one dimension, and derived counter-examples for necessity

Outreach

Carnegie Mellon Informatics and Mathematics Competition Club

Sep 2022 - May 2025

Math/Programming Problem Writing Committee Head/Executive

- Lead committee to write original problems in math and programming for high-schoolers
- Help organize and run annual math, women's math, and programming competition

Awards

- Phi Beta Kappa Honor Society Member 2025
- CMU Senior Mathematics Prize 2025
- CMU Richard A. Moore Award 2024
- Physics Cup Silver Medal 2022
- USA Physics Olympiad Top 50 2021
- USA Math Olympiad Qualifier 2020

Teaching

- Teaching Assistant: CMU 15-763 Physically-based Animation of Solids and Fluids Spring 2025

Selected Coursework

Computer Graphics/Vision:

- Computer Graphics
- Computer Game Programming
- Discrete Differential Geometry
- Physics-Based Rendering
- Special Topics in Graphics: Physically-based Animation of Solids and Fluids
- Parallel Computer Architecture and Programming
- Computational Photography
- Visual Learning and Recognition
- Learning-Based Image Synthesis

Mathematics/Physics:

- Advanced Topics in PDEs: Interacting Particle Systems
- Advanced Topics in Analysis: Optimal Transport and Applications
- Math Studies (Honors) Analysis I & II
- Math Studies (Honors) Algebra I & II
- Quantum Computation and Quantum Information Theory
- Quantum Physics
- Thermal Physics I

Other Information

- Citizenship: United States
- Languages: English (native), Mandarin Chinese (native)