Curriculum Vitae
Qile Yan

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Education

The Pennsylvania State University   **U.S.**
Ph.D. in Applied Mathematics   August 2018 – Present
- Thesis supervisor: Prof. John Harlim
- Anticipated Graduation: July 2023

The Chinese University of Hong Kong   **Hong Kong**
M.Phil. in Mathematics   August 2016 – July 2018
- Thesis supervisor: Prof. Jun Zou

Tongji University   **Shanghai, China**
B.Sc. in Applied Mathematics   September 2012 - July 2016
- Thesis supervisor: Prof. Wei Wang

Research Interests

- Numerical Analysis, Numerical PDEs, PDEs on Surface/Manifold

Publications

- "Spectral methods for solving elliptic PDEs on unknown manifolds", with Shixiao Jiang and John Harlim, Journal of Computational Physics.
- "Kernel-based methods for solving time-dependent advection-diffusion equations on manifolds", with Shixiao Jiang and John Harlim, Journal of Scientific Computing.

Research Experience

The Pennsylvania State University
Project 2   June 2021 – Oct 2022
- Develop a fast solver for elliptic PDEs on unknown manifolds identified with point cloud data. The method is formulated as a spectral method where the basis functions are approximated by using Radial Basis functions.

Project 1   May 2020 – May 2021
- Solve the advection-diffusion PDE on unknown smooth manifolds without and with boundaries using kernel methods.

The Chinese University of Hong Kong
M.Phil. Thesis   August 2017 – July 2018
- Consider the effect of numerical integration on the convergence of discrete solutions for the Hatree-Fock equations where finite element method is used to approximate the equations.

Tongji University
Final project   February 2016 - July 2016
- Propose an improved image denoising method to remove noise from an observed image while avoiding the "staircasing effect" and preserving "textures" to some extent.

Teaching Experience

The Pennsylvania State University

Instructor (Main duties: teaching)

- MATH230 Multivariable Calculus and Vector Analysis   Fall 2021
- MATH230 Multivariable Calculus and Vector Analysis   Fall 2020

The Chinese University of Hong Kong

Tutor (Main duties: conducting tutorials, grading)

- MATH1010 University Mathematics   Fall 2017
- MATH2010 Advanced Calculus   Summer 2017
- MATH1010 University Mathematics   Fall 2016

Positions

The Pennsylvania State University

- Graduate Teaching Assistant   2018 - 2021
- Graduate Research Assistant funded by
  NSF grant DMS-1854299   2021- 2022
  ONR grant N0014-22-1-2193   2022- 2023

The Chinese University of Hong Kong

- Graduate Teaching Assistant   2016 - 2018

Computer Skills

- Proficient in MATLAB and LaTex