

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
- Cumulative GPA: 3.875/4.000

Tongji University

Shanghai, China

B.Sc. in Applied Mathematics

September 2012 - July 2016

- Thesis supervisor: Prof. Wei Wang
- GPA: 4.52/5.00

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, under reviewed.
- “Kernel-based methods for solving time-dependent advection-diffusion equations on manifolds”, with Shixiao Jiang and John Harlim, accepted by 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