

# Curriculum Vitae

## Qile Yan

Email: qzy42@psu.edu

### Education

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#### The Pennsylvania State University

U.S.

*Ph.D. in 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

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

### Publications

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- “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

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#### 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

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### 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

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### 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

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- Proficient in MATLAB and LaTeX