

Ying Li

Education

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| Shanghai University B.S. Mathematics and Applied Mathematics | 2013 - 2017 GPA:3.4/4.0 |
| Missouri University of Science and Technology Ph.D. Program in Computational Mathematics | 2017 - 2020 GPA:3.8/4.0 |
| University of Florida Ph.D. Program in Mathematics | 2020 - present GPA:3.8/4.0 |

Publications&Preprints

1. Nan Jiang, Ying Li and Huanhuan Yang. **An artificial compressibility Crank--Nicolson Leap-Frog method for Stokes-Darcy model and Application in Ensemble Simulations**, SIAM Journal on Numerical Analysis 2021 59:1, 401-428.
2. Nan Jiang and Ying Li and Huanhuan Yang. **A second order ensemble method with different subdomain time steps for simulating coupled surface-groundwater flows**, Numer. Methods Partial Differ. Eq. 2021, 1– 28.
3. Nan Jiang and Ying Li. **An SAV pressure-correction ensemble scheme for Stokes-Darcy equations**, in preparation.
4. Qingguang Guan, Ying Li and Yanzhi Zhang. **Kernel Estimation of 1-D Nonlocal Diffusion and Peridynamic Models by Neural Networks**, in preparation.
5. Ying Li, Yanzhi Zhang and Shipin Zhou, **A Data-Driven Symmetric Convolution Neural Network solver for nonlocal PDEs**, in preparation.

Conference Participation

- gave a invited talk at Midwest Numerical Analysis Day 2021, Missouri S&T.
- gave a invited talk at SIAM Southeastern Atlantic Sectional Conference, Auburn University, 2021.
- gave a invited talk at SIAM/Numerical Analysis Seminar, UF, 2021.
- attended the 5th Annual Meeting of SIAM Central States Section, Ames, IA, October 18-20, 2019.
- attended the workshop on " Fractional PDEs: Theory, Algorithms and Applications", ICERM at Brown University, Providence, RI, June 18-22, 2018.

Skills

Computer:

Over five years' experience in Matlab;
Over three year's experince in FreeFem++;
One year's experience in Pytorch; C

Experience

University of Florida

Gainesville, FL

Graduate Teaching Assistant

Fall 2020 - Spring 2022

- Instructed undergraduate discussion course, like: Analyt Geom and Calc I, Calc II and Precalculus Algebra.
- Led students through class review and made quiz problems
- Improved ability to present, communicate and explain quantitative material and ideas

Graduate Research Assistant

Fall 2022

- Performed research in numerical analysis for ensemble algorithms for the Stokes-Darcy model
- Performed research in the area of deep learning for solving nonlocal models
- Experienced with PyTorch for deep learning for solving PDEs

Missouri University of Science and Technology

Rolla, MO

Graduate Research Assistant

Spring 2019, Spring 2020

- Performed research in the area of ensemble algorithms for simulating groundwater-surface flows
- Performed research in the area of kernel estimate from data by neural network
- Experienced with coding and analysis of finite element methods

Graduate Teaching Assistant

Fall 2017 - Fall 2018, Fall 2019

- Instructed undergraduate laboratory course. Calculus For Engineers II(Laboratory), Fall2018. Calculus For Engineers II(Laboratory), Fall2019.
- Tutored students with understanding of lab problems through small group discussion and presentations
- Graded homework and exams

Shanghai University

Research Experience

- Study of basic theory of weno/eno, 1D/2D FEM and discontinuous FEM.
- Practice of 1D/2D FEM, weno/eno on time-dependent carburizing problem in matlab.

Graduation Project: The application of the finite element method on phase-field model with a fractional derivative operator on time.

Shanghai, China
Jan 2016 - July 2017

Courses:

Numerical Differential Equations

Introduction to Real Analysis

Introduction to Complex Variable

Nonlinear Optimization

Mathematics Foundation of FEMs II

Introduction of Algebra II

Analysis II

Topology I

Numerical Analysis

Finite Difference & Spectral Methods for PDE

Numerical Analysis in CFD

Functional Analysis I

Partial Differential Equations

Methods of Applied Mathematics

Mathematics Foundation of FEMs

Introduction of Algebra I

Analysis I

Combinatorial theory I

Seminar in Number Theory

Seminar in Applied Math I

Stochastic Process

Introduction to Deep learning and Its Mathematics
Foundation