

ZEYUAN SONG

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EDUCATION

- Ph.D., Oklahoma State University**, Chemical Engineering 2022 – Present
Advisor: Dr. Zheyu Jiang
- MSc., University of Macau**, Mathematics 2020 – 2022
Advisor: Dr. Ieng Tak Leong
- BSc. & LL.B., Shandong University of Science and Technology**, Statistics minor Law 2015 – 2019

RESEARCH EXPERIENCE

Computational Laboratory for Advanced Manufacturing and Sustainability (CLAMS), Oklahoma State University January 2022– Present
Graduate Research Assistant

- Developing machine learning algorithms to simulate the water flow dynamics in soils
- Solving optimal control problems in the field of chemical engineering using reinforcement learning

Department of Mathematics, University of Macau March 2021 – July 2021
Graduate Research Assistant

- Focused on PDE theory such as elliptical PDEs and property of its fundamental solutions
- Supervised undergraduate mathematics experiments lab

School of Mathematics and Statistics, Shandong University September 2019 - September 2020
Graduate Research Assistant

- Focused on computational project about speeding up the procedure of finding the numerical solution of a kind of elliptical equations in computational mathematics

College of Mathematics and Systems Science, Shandong University of Science and Technology May 2019 - June 2019
Undergraduate Research

- Focused on computational project about developing a novel statistical method to identify the important nodes in a complex network and the divide all nodes into several community

TEACHING EXPERIENCE

GEST1004, University of Macau Fall 2021
Teaching Assistant of Quantitative Reasoning for Science and Technology

MATH3005, University of Macau Spring 2021
Teaching Assistant of Mathematics Experiment

MATH1000, University of Macau Fall 2020
Teaching Assistant of Discrete Mathematics

PUBLICATIONS

1. Song Z, Jiang Z. A data-driven approach for solving water flow dynamics in soil systems: Incorporating global random walk and machine learning in finite volume discretization framework. *Computer Aided Chemical Engineering*. 2023; 52; 819-824;

PRESENTATIONS

2. Song Z. A Data-driven Random Walk Approach for Solving Water Flow Dynamics in Soil Systems. 2023. CHE Spring Graduate Seminar, Stillwater, OK
1. Song Z, Jiang Z. A Data-driven Random Walk Approach for Solving Water Flow Dynamics in Soil Systems. 2023. Foundations of Computer-Aided Process Operations and Chemical Process Control (FOCAPO/CPC), San Antonio, TX

HONORS AND AWARDS

Overall Excellence in Science, Shandong University of Science and Technology	2019
Shandong University Graduate Student Scholarship, Shandong University	2019-2020
First Prize in 10th Chinese Mathematics Competition	2018
First Prize in 9th Shandong Province Mathematics Competition	2018
Third Prize in May Day Mathematical Contest in Modeling	2016
Honorable mention in Certificate Authority Cup International Mathematical Contest in Modeling	2016