Jinpu Zhou

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annshuu.github.io

EDUCATION

Beijing Normal University 09/2014-07/2018
B.Sc. in Physics (GPA: 3.3/4.0)

Louisiana State University 09/2019-Present
Ph.D. candidate in Mathematics (GPA: 4.0/4.0)
Advisor: Arnab Ganguly

Georgia Institute of Technology 03/2022-Present
M.S. in Computer Science

EMPLOYMENT

Louisiana State University 09/2019-Present
Graduate Teaching Assistant

PUBLICATIONS

Nonparametric estimation of diffusion processes
R. Mitra, A. Ganguly, S. Bhaduri and J. Zhou; Near completion; to be submitted in a month.

RESEARCH EXPERIENCE

Department of Mathematics, Louisiana State University 09/2020-Present
Ph.D. Researcher (supervised by Prof. Arnab Ganguly)

Infinite-dimensional Estimation Problems Related to SDE

- Using Bayesian inference and RKHS methods to estimate the function component in SDEs
- Finding better characterization of the solution space for the optimization problem in a Hilbert space
- Studying various asymptotic analyses of the system including convergence of the estimators through central limit type theorems and large deviation techniques.

Error Analysis for SDE Simulations

- Evaluating the error for different SDE simulation schemes
- Calculate the converging rates of the systems. Proving a version of central limit theorem and large deviation principle for those schemes

School of Systems Science, Beijing Normal University 10/2017-08/2019
Undergraduate Researcher (supervised by Prof. Dahui WANG)

An Investigation into the Working Memory Model

- Studying the influential factors on the oscillation of different frequencies in WM tasks
- Introducing different types of inhibitory neurons into the spiking network to generate high and low-frequency oscillation, simulating with simultaneously and sequentially inputs and matching it with the experimental data
- This work led to an abstract and poster at SFN 2018 and the manuscript is under preparation

RESEARCH EXPERIENCE (Cont. from Page 1)

Department of Physics, Beijing Normal University 11/2017-05/2018
Undergraduate Researcher (supervised by Prof. Zhanchun TU)

A Study of the Planetary Orbits in the Solar System based on Machine Learning

- Using neural networks, including full-connection network, convolutional neural network and recurrent neural network, to learn the orbital data in the solar system
- Investigating the fitting and prediction effects with different network constructions and coordinates

State Key Laboratory of Cognitive Neuroscience and Learning 05/2015-05/2017
Undergraduate Researcher (supervised by Prof. Haidong LV)

Information Mining of brain intrinsic optical signal imaging

- Developed the data analysis methods of the brain intrinsic optical signal imaging using multivariate statistics and machine-learning-based feature selection
- Selected the statistics to improve the mathematical description of noise and signal, and established the evaluation criteria of the processed images

CONFERENCES & PRESENTATIONS

Society for Neuroscience 2018 (Neuroscience 2018) 11/2018

- *Neural Circuit Maintains Simultaneously or Sequentially Presented Multiple Items in Working Memory*

The 2nd China System Science Conference (CSSC 2018) 05/2018

- *An Investigation into the Working Memory Model*

AWARDS & ACHIEVEMENTS

2015 Academic Excellence Scholarship

MEMBERSHIP & ACTIVITIES

LSU SIAM Student Chapter 08/2020- Present

- *Secretary*

Capital Volunteers Association of Blood Donor 08/2017-02/2018

- *Volunteer*

SKILLS

Languages:

Chinese (native), English (proficient), Japanese (intermediate, N3)

Computer:

- **Scientific computing with Python, MATLAB and R**
  - Implemented my undergraduate and PhD researches
  - numpy, matplotlib, scipy, statsmodels
- **Linux and HPC**
- **Machine Learning**
  - Certificate of Machine Learning (Online, Sandford University)
  - Certificate of Deep Learning Specialization (Online, DeepLearning.AI)
  - tensorflow, keras, scikit-learn, pandas, seaborn
- **Programming with Python, C**
- **SQL, Spark and Hadoop**
- **Elementary knowledge in Java, HTML**

Miscellaneous:

Microsoft Office tools, Git, LaTeX