LINAN ZHANG

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA, USA *August 2015 – December 2019*

Ph.D. in Mathematical Sciences

Thesis Title: Sparse Recovery And Deep Learning For Extracting Time-Dependent Models From Data

Thesis Advisor: Hayden Schaeffer

Obtained M.S in Mathematical Sciences in December 2016

Worcester Polytechnic Institute, Worcester, MA, USA *August 2011 – May 2015*

B.S. in Mathematical Sciences

Thesis Title: Mathematical Modeling of Influenza Viruses (with Tianyu Li and Zhaokun Xue)

Thesis Advisor: Roger Lui

Graduated with High Distinction and was awarded the Salisbury Prize (one awardee per major)

PROFESSIONAL APPOINTMENTS

Lecturer (Assistant Professor) *February 2021 – present*

Department of Applied Mathematics, School of Mathematics and Statistics, Ningbo University

Postdoctoral Associate *February 2020 – January 2021*

Department of Biomedical Informatics, School of Medicine, University of Pittsburgh

Principal Investigator: Hatice Ulku Osmanbeyoglu

RESEARCH FUNDING

Principal Investigator

1. National Natural Science Foundation of China (NSFC), Youth Program, 12101342, "Application of Sparse Learning in Dynamic Model Identification." January 2022 to December 2024, RMB 240,000.

PUBLICATIONS

* indicates alphabetical order of last names.

Peer-viewed Articles

1. S. Cascio, C. Chandler, **L. Zhang**, S. Sinno, B. Gao, S. Onkar, T. Bruno, D. Vignali, H. Mahdi, H. Osmanbeyoglu, A. Vlad, L. Coffman, and R. Buckanovich. "Cancer associated MSC drive tumor immune exclusion and resistance to immunotherapy which can be overcome by hedgehog inhibition." *Science Advances* to appear.
2. * H. Schaeffer, G. Tran, R. Ward, and **L. Zhang**. "Extracting structured dynamical systems using sparse optimization with very few samples." *Multiscale Modeling & Simulation*, 18(4):1435–1461, 2020.
3. **L. Zhang** and H. Schaeffer. "Forward Stability of ResNet and Its Variants." *Journal of Mathematical Imaging and Vision*, 2019.
4. **L. Zhang** and H. Schaeffer. "On the convergence of the SINDy algorithm." *Multiscale Modeling & Simulation* 17(3): 948–972, 2019.
5. **L. Zhang** and H. Schaeffer. "Stability and error estimates of BV solutions to the Abel inverse problem." *Inverse Problems* 34(10): 105003, 2018.

Conference Proceedings

1. Y. Sun, **L. Zhang**, and H. Schaeffer. "NeuPDE: neural network based ordinary and partial differential equations for modeling time-dependent data." *Proceedings of Machine Learning Research*, 107:352–372, 2020.

PROFESSIONAL PRESENTATIONS

Presentations at Conferences and Workshops

1. SIAM Conference on Applications of Dynamical Systems, Snowbird, Utah. *May 19–23, 2019*

   Minisymposium on *Sparse Learning of Dynamical Systems from Temporal Data*

   Title: Extracting Structured Dynamics from Very Few Samples

2. SIAM Conference on Computational Science and Engineering, Salt Lake City, Utah. *March 14–18, 2015*

   Minisymposium on *Undergraduate Sessions – Part II of II*

   Title: Modeling Bull Sperm Motility Using Image Processing

TEACHING

Instructor *NBU*

Scientific Computing (4022031)

Graduate Teaching Assistant *CMU*

Linear Algebra (21-341)

Numerical Methods (21-369)

Introduction to Functional Analysis (21-640)

Undergraduate Teaching Assistant *WPI*

Calculus (MA1021 – MA1024)

Ordinary Differential Equations (MA2051)

Rings and Fields (MA3825)

Applicable Complex Variables (MA4291)