Tianyu Zhang

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Education

Ph.D. Biostatistics, University of Washington 9/2017-8/2022

Dissertation Title Modern Sieve Estimators for Nonparametric Problems: Streaming Data and High-dimensional Data.

Committee Members Noah Simon (Chair), Alex Luedtke, Marco Carone, Rekha Thomas

B.S. Life Science & Mathematics (Double Major), Peking University 9/2013-7/2017

POSCO Scholarship 2015-2016
Suzhou Industrial Park Scholarship 2014-2015

Working Experience

Post Doctoral Researcher
Department of Statistics & Data Science, Carnegie Mellon University 9/2022-Present

Research Assistant
Department of Biostatistics, University of Washington 3/2018-8/2022

Statistical Consultant
FOXO Technologies Inc. 9/2021-8/2022

Research Scientist Intern
Modeling and Optimization team, Amazon 6-9/2020 & 6-9/2021

Research Publication (* indicates co-first author)

Preprints

1. **Tianyu Zhang**, Noah Simon. Regression in Tensor Product Spaces by the Method of Sieves. *arXiv:2206.02994.*
   (Best Student Oral Presentation at WNAR 2022)

2. Takatsu, Kenta, **Tianyu Zhang**, and Arun Kumar Kuchibhotla. "Semiparametric Shape-restricted Estimators for Nonparametric Regression." arXiv preprint arXiv:2307.05732 (2023).

Peer-Reviewed Articles

1. Yunhua Xiang, **Tianyu Zhang*,** Xu Wang, Ali Shojaie, Noah Simon. On the Optimality of Nuclear-norm-based Matrix Completion for Problems with Smooth Non-linear Structure. Accepted by *Journal of Machine Learning Research.*
2. Despina Michailidou, **Tianyu Zhang**, Nicole M. Kuderer, Gary H. Lyman, Andreas Diamantopoulos, Pavlos Stamatis, and Bernard Ng. "Predictive Models for Thromboembolic Events in Giant Cell Arteritis: a US Veterans Health Administration Population-Based Study." *Frontiers in Immunology*: 5116.
   This work also appeared in the oral presentation session at the American College of Rheumatology Convergence, 2022.
3. **Tianyu Zhang** and Noah Simon. "A Sieve Stochastic Gradient Descent Estimator for Online Nonparametric Regression in Sobolev Ellipsoids." *The Annals of Statistics* 50, no. 5 (2022): 2848-2871.
4. **Tianyu Zhang**, Noah Simon. "An Online Projection Estimator for Nonparametric Regression in Reproducing Kernel Hilbert Space." *Statistica Sinica*. (in press)
5. Despina Michailidou, **Tianyu Zhang**, Pavlos Stamatis, and Bernard Ng. "Risk of Venous and Arterial Thromboembolism in Patients with Giant Cell Arteritis and/or Polymyalgia Rheumatica: A Veterans Health Administration Population Based Study in the United States." *Journal of Internal Medicine* (2022).
   This work also appeared in the oral presentation session at the American College of Rheumatology Convergence, 2021.
6. Yiming Wang, Weikaixin Kong, Liang Wang, **Tianyu Zhang**, Boyue Huang, Jia Meng, Baoxue Yang, Zhengwei Xie, and Hong Zhou. "Multiple-purpose Connectivity Map Analysis Reveals the Benefits of Esculetin to Hyperuricemia and Renal Fibrosis." *International Journal of Molecular Sciences* 21, no. 20 (2020): 7695.
7. Zhengwei Xie, **Tianyu Zhang***, and Qi Ouyang. "Genome-scale Fluxes Predicted under the Guidance of Enzyme Abundance using a Novel Hyper-cube Shrink Algorithm." *Bioinformatics* 34, no. 3 (2018): 502-510.

Teaching Experience

Teaching Assistant, University of Washington

Fall 2020: BIOST 514/517 Biostatistics;
Instructor: Ken Rice

Winter 2019: BIOST 546 Machine Learning for Biomedical and Public Health Big Data;
Instructor: Daniela Witten

Teaching Assistant, Peking University

Summer 2016 & 2017: Calculus I;
Instructor: Jiazhong Yang

Professional Activities

Reviewer Journal of Machine Learning Research

Leadership Experience

Statistical Learning Applied to Biostatistics (SLAB) Lab, University of Washington

- Main organizer of weekly presentation 9/2020-9/2021
- Presenting personal and literature research 2018-Present

Department peer mentor, University of Washington

Skills

Computer: R, SQL, Python, Shell script, C++, MATLAB.
Language: Chinese (native); English (proficient); Japanese (beginner).