

# Tianyu Zhang

Department of Statistics and Data Science  
Carnegie Mellon University  
Pittsburgh, PA 15213

Phone: (+1) 206-488-2242  
Email: tianyuz3@andrew.cmu.edu

## 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. 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. *arXiv: 2105.01874*.

## *Peer-Reviewed Articles*

1. 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.
2. **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.
3. **Tianyu Zhang**, Noah Simon. "An Online Projection Estimator for Nonparametric Regression in Reproducing Kernel Hilbert Space." *Statistica Sinica*. (in press)
4. 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.
5. 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.
6. 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).