

Yutong Wang

University of California, Berkeley
Graduate Group in Biostatistics
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Education

University of California, Berkeley

Ph.D. in Biostatistics, 2018 - present

Advisor: Yun S. Song

Designated emphasis (doctoral minor) in Computational and Genomic Biology

M.A. in Biostatistics, 2018 - 2020

Thesis: Joint Integration Analysis of Single-cell RNA Sequencing and Imaging Data to Infer Adipogenesis and Lipid Maturation

Committee: Yun S. Song (co-chair), Aaron Streets (co-chair), Haiyan Huang

Tianjin University, China

B.S. in Mathematics and Applied Mathematics, 2018

University of Pennsylvania

Visiting Scholar in Mathematics and Statistics, 2016-2017

Research Interests

statistical machine learning, high dimensional statistics, probabilistic modeling, causal inference, high-throughput sequencing, functional genomics

Publications

Youjin Lee^{*†}, Derek Bogdanoff^{*}, **Yutong Wang^{*}**, George Hartoularos, Jonathan M. Woo, Cody T. Mowery, Hunter M. Nisonoff, David S. Lee, Yang Sun, James Lee, Sadaf Mehdizadeh, Joshua Cantlon, Eric Shifrut, David N. Ngyuen, Theodore L. Roth, Yun S. Song, Alexander Marson[†], Eric D. Chow[†], Chun Jimmie Ye[†], XYZeq: Spatially-resolved single-cell RNA-sequencing reveals expression heterogeneity in the tumor microenvironment. *Science Advances* **7**, eabg4755 (2021).

^{*} indicates equal contribution, [†] indicates co-corresponding authors

Professional Experience

University of California, Berkeley

2019 - present

Graduate Student Researcher

Advisor: Yun S. Song

Develop and implement novel statistical methods and computational algorithms for the joint analysis of single-cell genomics data and other data modalities including spatial transcriptome and imaging data.

University of Pennsylvania

2017

Undergraduate Research Assistant

Advisor: Nancy Zhang

Designed and implemented computational experiments to compare gene expression recovery methods for single cell RNA sequencing data.

Talks	Computational Biology Skills Seminar, Center for Computational Biology, UC Berkeley (2021) “Single-cell and spatial transcriptomics data analysis with Seurat in R.”
	Computational and Genomic Biology Retreat, Center for Computational Biology, UC Berkeley (2021) “XYZeq: Spatially-resolved single-cell RNA-sequencing reveals expression heterogeneity in tumor microenvironment.”
Teaching	University of California, Berkeley , Center for Computational Biology <i>Instructor, Python Bootcamp</i> Spring 2022 8-hour lectures to 122 participants including graduate students, postdoc and faculties about data structures, text manipulation, and file input/output.
	<i>Graduate Student Instructor, Algorithms for Single-Cell Genomics</i> Fall 2021 Graduate course on algorithms and statistical methods in single-cell genomics. Three main themes of the course are spatial transcriptomics, multi-omics integration, and immune receptor-antigen interactions.
	University of California, Berkeley , Department of Statistics <i>Graduate Student Instructor, Concepts of Statistics (STAT 135)</i> Spring 2020 Core upper-division course on statistical theory including parametric estimation, hypothesis testing, statistical tests, and linear regression.
	<i>Graduate Student Instructor, Introduction to Statistics (STAT 2)</i> 2018 - 2019 Responsible for two sections with 50 students, office hours, and grading.
Awards and Fellowships	Biostatistics Block Grant and Non-Resident Student Tuition Award Graduate Group in Biostatistics, UC Berkeley 2018 - 2021
	Biostatistics Diversity Fellowship Graduate Group in Biostatistics, UC Berkeley 2020 - 2022
	Berkeley Wellness Letter Fellowship School of Public Health, UC Berkeley 2020 - 2021
	Public Health Alumni Association Award School of Public Health, UC Berkeley 2019
Public Service	University of California, Berkeley 2020 - present Diversity, Equity, Inclusion & Belonging (DEIB) Fellow to plan, implement and organize concrete actions to increase diversity in Biostatistics.
	Link Afar (NGO for people with disabilities) 2020 - present Instructor of English language for Chinese with visual impairment. Responsible for course design and daily instruction. Selected as the instructor with outstanding contributions (3/40).
Skills and Languages	R, Python, Matlab, Git, Bash, L ^A T _E X, Mathematica Mandarin (native), English (proficient), German (intermediate)