Kevin W. Jin

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Education

Yale University — New Haven, CT
Ph.D. Computational Biology and Bioinformatics — *Aug. 2023 – Ongoing*

Johns Hopkins University — Baltimore, MD
B.S. Molecular and Cellular Biology — *Aug. 2016 – May 2020*

Publications

[1] **Kevin W. Jin**, Huimin Li, Bryn Brakefield, Stephen McKeown, and Qiwei Li. "Bayesian Clustering of n-gons via a Double Dirichlet Mixture Model". In: *Journal of the American Statistical Association* (2023). In preparation.

[2] **Kevin W. Jin**, Yang Xie, Qiwei Li, and Guanghua Xiao. "Artificial intelligence in mental healthcare: a scoping review". In: *The British Journal of Pathology* (2023). Submitted.

[3] Ruichen Rong, **Kevin W. Jin**, Kristin Denton, Stephen Lyon, Carol A. Wise, Bruce Beutler, Qiwei Li, Jonathan J. Rios, and Guanghua Xiao. "Deep learning-based measurement of murine bone length in X-ray images". In: *Scientific Reports* (2023). In preparation.

[4] Zhuoyu Wen, Yu-Hsuan Lin, Shidan Wang, Naoto Fujiwara, Ruichen Rong, **Kevin W. Jin**, Donghan M. Yang, Bo Yao, Shengjie Yang, Tao Wang, Yang Xie, Yujin Hoshida, Hao Zhu, and Guanghua Xiao. "Deep Learning-Based Hepatic Ploidy Quantification Using H&E Histopathology Images". In: *Genes* (2023). Submitted.

[5] Xinyi Zhang, Frederico O. Gleber-Netto, Shidan Wang, Roberta Rayra Martins-Chaves, Richardo Santiago Gomez, Nadarajah Vigneswaran, Arunangshu Sarkar, William N. William Jr., Vassiliki Papadimitrakopoulou, Scott M. Lippman, Michelle Williams, Diana Bell, John V. Heymach, Ann M. Gillenwater, Jeffrey N. Myers, Renata Ferrarotto, **Kevin W. Jin**, Curtis R. Pickering, and Guanghua Xiao. "A deep learning Onion Peeling approach to measure oral epithelium layer number". In: *Cancers* (2023). Submitted.

[6] Qinbo Zhou, Donghan M. Yang, Lauren Furman, Xian Cheng, Danni Luo, Yueqi Li, **Kevin W. Jin**, Lin Xu, Bo Yao, Patrick Leavey, Tammy Lo, David S. Shulman, Don Barkauskas, Katherine Janeway, Chand Khanna, Richard Gorlick, Guanghua Xiao, Stephen X. Skapek, Laura J. Klesse, Brian Crompton, and Yang Xie. "Osteosarcoma Explorer: A Data Commons with Clinical, Genomic, Protein and Tissue Imaging Data for Osteosarcoma Research". In: *Journal of the American Medical Informatics Association* (2023). In preparation.

[7] Ruichen Rong, Hudanyun Sheng, **Kevin W. Jin**, Fangjiang Wu, Danni Luo, Zhuoyu Wen, Chen Tang, Donghan M. Yang, Liwei Jia, Mohamed Amgad, Lee A.D. Cooper, Yang Xie, Xiaowei Zhan, Shidan Wang, and Guanghua Xiao. "A Deep Learning Approach for Histology-Based Nuclei Segmentation and Tumor Microenvironment Characterization". In: *Modern Pathology* (2022). Preprint published.

Presentations

[1] "Bayesian Clustering of n-gons via a Double Dirichlet Mixture Model". Talk delivered at the Texas Oklahoma Regional Undergraduate Symposium in Dallas, TX. Feb. 2023.

[2] "Adventures in Cluster Analysis: Approaching Shape Clustering". Talk delivered at the UT Dallas Bioinformatics Joint Seminar in Richardson, TX. Oct. 2022.

[3] "Generating Microfluidic Gradients for the Study of an Olfactory Receptor involved in Prostate Cancer Metastasis". Talk delivered at the Johns Hopkins Undergraduate Research Symposium in Baltimore, MD. Oct. 2019.

[4] "Could olfactory receptors modulate prostate cancer metastasis?" Poster presented at Johns Hopkins Day of Undergraduate Research in Engineering, the Arts & Humanities, Medicine and the Sciences (DREAMS) in Baltimore, MD. Apr. 2018.

Research Experience

Research Intern — Sep. 2022 – Present
Advisor: Guanghua Xiao | UT Southwestern Medical Center — *Dallas, TX*

- Analyze electronic health records using Python to quantify severity of cutaneous lupus erythematosus.

Research Assistant — June 2022 – Present
Advisor: Qiwei Li | The University of Texas at Dallas — *Richardson, TX*

- Develop `BACON`, an R package for a Bayesian shape clustering algorithm, in collaboration with others.

Undergraduate Researcher Apr. 2019 – May 2020

Advisor: Soojung Claire Hur | Johns Hopkins University *Baltimore, MD*

- Optimized a microfluidic device that exposes prostate cancer cells to odorant gradients, provoking cell migration.
- Contributed to MATLAB script that analyzes cell migratory patterns from video and taught Git to lab members.
- Composed review of liposome and exosome-encapsulated drug delivery methods.

Summer Research Intern July 2018 – Aug. 2018

Advisor: Debabrata Saha | UT Southwestern Medical Center *Dallas, TX*

- Assessed the radiosensitization efficacy of four DNA-dependent protein kinase inhibitors in conjunction with hypoxic environments on cancer cell lines.
- Composed review of radiosensitization techniques.

Undergraduate Researcher Jan. 2018 – June 2019

Advisor: Steven S. An | Johns Hopkins Bloomberg School of Public Health *Baltimore, MD*

- Elucidated inverse relationship between expression of olfactory receptor OR51E2 and metastatic potential of prostate cancer using degenerate primer PCR, metastatic mouse models, and RNA-Seq of patient tumor samples.
- Started odorant profile of prostate cancer cells (PC3, LNCaP) by quantifying changes in cell stiffness upon exogenous agonist exposure using optical magnetic twisting cytometry.

Teaching Experience

Undergraduate Teaching Assistant Jan. 2018 – May 2020

Johns Hopkins University *Baltimore, MD*

- General Physics I-II: Guided flipped classroom problem solving for 50 students; <1% of students were selected as TAs.
- General Biology I-II: Wrote official problem sets and study guides; led one-on-one office hours; proctored and graded exams; <1% of students were selected as TAs.

Professional Organizations

Member: American Medical Informatics Association, American Statistical Association