

# DAOYUAN LAI

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## EDUCATION

**The University of Hong Kong**

Ph.D. candidate in Statistics

Advisors: Dr. Yan Dora Zhang & Prof. Pak Chung Sham

Sep. 2020–Jan. 2025 (Expected)

**Columbia University**

Visiting student at the Department of Biostatistics, Mailman School of Public Health

Advisor: Dr. Tian Gu

Mar. 2024–Sep. 2024

**Southern University of Science and Technology, China**

B.S. in Statistics (*with distinction*)

Sep. 2016–Jun. 2020

## RESEARCH INTERESTS

Data integration, Statistical genetics, High-dimensional statistics, Bayesian statistics, Clinical trial

## PUBLICATIONS

### Articles (as the first author)

- **Lai, D.**, & Gu, T. (2024+). An Angle-based Bayesian Transfer Learning Method for Enhanced Estimation and Inference. *In Preparation*.
- **Lai, D.**, Wu, S., Gu, T. & Zhang, Y. D. (2024+). TransTWAS: A Multi-tissue Transcriptome-wide Association Studies with High-dimensional Transfer Learning. *Under review*.
- **Lai, D.**, Lu, J., Lim, D., Wang, H., Huang, T. & Zhang, Y. D. (2024). Risk of myocarditis after three doses of COVID-19 mRNA vaccines in the US, 2020–2022: a self-controlled case series study. *Journal of Evidence-Based Medicine*. (IF: 7.3, JCR percentile: Q1).
- **Lai, D.**, Zhang, Y. D., & Lu, J. (2022). Venous thromboembolism following two doses of COVID-19 mRNA vaccines in the US population, 2020–2022. *Vaccines* 10(8), 1317.
- **Lai, D.**, Cai, Y., Chan, T., Gan, D., Hurson, A., & Zhang, Y. D. (2022). How to organise travel restrictions in the new future: lessons from the COVID-19 response in Hong Kong and Singapore. *BMJ Global Health* 7(2), e006975.

### Articles (as a middle author)

- Kuang, Z., **Lai, D.**, & Gu, T. (2024+). Leveraging Multi-source Summary-level Data for Enhanced Risk Prediction Through Synthetic Data. *In Preparation*.
- Wang, H., Wang, X., Li, T., **Lai, D.**, & Zhang, Y. D. (2022). Adverse effect signature extraction and prediction for drugs treating COVID-19. *Frontiers in Genetics*, 13, 1019940.
- Zhang, K., Xiong, C., Zhang, W., Liu, H., **Lai, D.**, Rong, Y., & Fu, C. (2019). Environmental features recognition for lower limb prostheses toward predictive walking. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 27(3), 465–476.
- Zhang, Y. D., Gan, D., **Lai, D.**, Chan, T., & Fu, E. (2019) Lessons learnt from Hong Kong's successful strategy in combatting two outbreak waves of COVID-19 pandemic: a retrospective cohort study. *Technical Report*.

## WORK EXPERIENCE

**BeiGene Ltd.**

Research Intern

Jul. 2023 – Dec. 2023

Shanghai, China

- Designed an R Shiny app that integrates multiple Bayesian methods to control covariate imbalance when borrowing information from historical clinical trials, accommodating various types of response variables such as binomial, survival, and continuous.
- The pipeline facilitates the borrowing of historical information, even in situations where only summary-level historical data is available.

## AWARDS AND HONORS

Hung Hing Ying Scholarship, <i>HKU</i>	2023–2024
Hong Kong Government Scholarship Fund–Reaching Out Award, <i>HKU</i>	2023
Excellent Research Award, <i>Dept. of Stat. &amp; Act. Sci., HKU</i>	2021–2022
Outstanding Graduate Award, <i>Dept. of Stat. &amp; Data Sci., SUSTech</i>	2020
Outstanding Undergraduate Thesis Award, <i>Dept. of Stat. &amp; Data Sci., SUSTech</i>	2020
Outstanding Undergraduate Scholarship, <i>SUSTech</i>	2017–2019

## TALKS AND POSTERS

BeiGene Intern Tech Talk, <i>Shanghai, China</i>	2023
American Society of Human Genetics (ASHG) Annual Meeting, <i>Washington DC, USA</i>	2023–2024
12th International Chinese Statistical Association (ICSA) International Conference, <i>Hong Kong, China</i>	2023

## TEACHING ASSISTANT

STAT4610/6011 Computational Statistics/Bayesian Learning (graduate level), <i>HKU</i>	2023–2024
STAT3902 Statistical Models, <i>HKU</i>	2023–2024
STAT3600 Linear Statistical Analysis, <i>HKU</i>	2020–2023

## COMPUTATION SKILLS

R, Python, Linux, C++