Archer Gong Zhang

(Last updated: August 2, 2025)

CONTACT INFORMATION

University Address: School of Mathematics & Statistics, University of Glasgow, University Place, Glasgow, G12 8QQ,

United Kingdom

Email: archer.zhang@glasgow.ac.uk
Homepage: https://gozhang.github.io/

ORCID: https://orcid.org/0000-0001-9943-3743

Google Scholar: https://scholar.google.com/citations?hl=en&user=GvzcEosAAAAJ

EMPLOYMENT

2025 - Present Lecturer in Statistics and Data Analytics

School of Mathematics and Statistics, University of Glasgow, Glasgow, Scotland, UK

Research and Teaching Track

2023 – 2025 – Departmental Postdoctoral Fellow

Department of Statistical Sciences, University of Toronto, Toronto, ON, Canada

Independent research position with a teaching load of one full-time course per year

2022 – 2023 Postdoctoral Fellow

Department of Statistical Sciences, University of Toronto, Toronto, ON, Canada

Supervisors: Dr. Nancy Reid and Dr. Qiang Sun

EDUCATION

2016 - 2022 Ph.D. in Statistics

University of British Columbia (UBC), Vancouver, BC, Canada Thesis title: "Semiparametric Inferences under a Density Ratio Model"

Supervisor: Dr. Jiahua Chen

2013 – 2016 Honours Bachelor of Science (with high distinction)

University of Toronto, Toronto, ON, Canada

Specialist in Statistical Science and Minor in Mathematics

CUMULATIVE GPA: 3.88/4.00

2012 – 2013 Simon Fraser University (SFU), Burnaby, BC, Canada

(Major in Statistics; Transferred to University of Toronto)

CUMULATIVE GPA: 3.99/4.33

Publications and Preprints

- Archer Gong Zhang, Nancy Reid, and Qiang Sun. "A Semiparametric Approach to Data-Integrated Causal Inference." Manuscript in preparation; poster available here and slides available here.
- Archer Gong Zhang, Nancy Reid, and Qiang Sun. "A Semiparametric Approach to Causal Inference." arXiv preprint arXiv:2411.00950, 2024. In revision; available here.
- Archer Gong Zhang and Jiahua Chen. "Optimal Estimation under a Semiparametric Density Ratio Model." arXiv preprint arXiv:2309.09103, 2023. In revision; available here.
- Yicheng Zeng*, **Archer Gong Zhang***, Hengchao Chen, and Qiang Sun. "Multidimensional scaling with noisy data." *Under revision with Wiley Interdisciplinary Reviews: Computational Statistics (invited paper).*

^{*} indicates equal contribution, with authors listed in alphabetical order.

- Qiang Sun, Archer Gong Zhang, Chenyu Liu, and Kean Ming Tan. "Resistant convex clustering: How does the fusion penalty enhance resistance?" *Electronic Journal of Statistics*, 19(1), 1199–1230, 2025. https://doi.org/10.1214/25-EJS2359.
- Qiong Zhang, **Archer Gong Zhang**, and Jiahua Chen. "Gaussian Mixture Reduction with Composite Transportation Divergence." *IEEE Transactions on Information Theory*, 70(7):5191–5212, 2024. https://doi.org/10.1109/TIT.2023.3323346.
- Archer Gong Zhang and Jiahua Chen. "Density ratio model with data-adaptive basis function." Journal of Multivariate Analysis, 191:105043, 2022. https://doi.org/10.1016/j.jmva.2022.105043.
- Archer Gong Zhang, Guangyu Zhu, and Jiahua Chen. "Empirical likelihood ratio test on quantiles under a density ratio model." *Electronic Journal of Statistics*, 15(2), 6191–6227, 2021. https://doi.org/10.1214/21-EJS1943.

AWARDS AND SCHOLARSHIPS

2021	General Student Research Presentation Award at Statistical Society of Canada Annual Meeting
2021	Statistical Society of Canada Annual Meeting Student Grant
2020/2021	Department of Statistics Graduate Teaching Assistant Award (Nominated for the UBC Killam
	Graduate Teaching Assistant Award)
2020 - 2021	President's Academic Excellence Initiative Ph.D. Award
2017 - 2021	Four Year Doctoral Fellowship
2016 - 2021	International Tuition Award
2016 - 2020	Faculty of Science Ph.D. Tuition Award
2016 - 2020	Faculty of Science Graduate Award
2016	Anona Thorne and Takao Tanabe Graduate Entrance Scholarship in Statistics
2015	University of Toronto Excellence Award in the Natural Sciences and Engineering
2015	University of Toronto Innis College Exceptional Achievement Award
2013	SFU Vice-President Research-Undergraduate Student Research Award
2013	SFU Undergraduate Open Scholarship
2012	SFU Alumni Scholarship Fund

Teaching and Mentoring

Undergraduate Research Assistants at University of Toronto

Amanda Ng and Shangkai Zhu, 2024 Summer (with Dr. Nancy Reid), Aspects of robust regression analysis Amanda Ng, 2025 Summer (with Dr. Nancy Reid), Robust high-dimensional regression with t-errors

Course Instructor at University of Toronto

2024/09 - 2024/12	STA237H1	Probability, Statistics and Data Analysis I
2023/09 - 2023/12	STA237H1	Probability, Statistics and Data Analysis I

Sessional Lecturer at University of British Columbia

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2020/01 - 2020/04 STAT 302 Introduction to Probability
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Teaching Assistant at University of Toronto

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2023/01 - 2023/04 STAD80H3 Analysis of Big Data
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Teaching Assistant at University of British Columbia

2021/09 - 2021/12	STAT 302	Introduction to Probability
2021/01 - 2021/04	STAT 302	Introduction to Probability
2020/09 - 2020/12	STAT 203	Statistical Methods
2019/01 - 2019/04	STAT 302	Introduction to Probability
2018/09 - 2018/12	STAT 306	Finding Relationships in Data
2018/01 - 2018/04	STAT $461/561$	Statistical Theory II
2017/09 - 2017/12	STAT $460/560$	Statistical Theory I

2017/01 - 2017/04	STAT 302	Introduction to Probability
2016/09 - 2016/12	STAT 302	Introduction to Probability

Professional Service

Referee for Academic Journal and Conference Papers

Artificial Intelligence and Statistics (AISTATS), Communications in Statistics - Simulation and Computation, Journal of Nonparametric Statistics, Mathematical Population Studies, The Canadian Journal of Statistics, Uncertainty in Artificial Intelligence (UAI).

Professional Experience

2014/08 – 2014/09 Summer Intern at **AIA China–Life Insurance–AIA Group Limited (Shanghai, China)**Department: Marketing and Product Design Department
Used the programming language SQL to manage the company's database of profiles of policy holders and life assurance policies.

Professional Affiliations and Activities

Present	Member of the Statistical Society of Canada and the American Statistical Association
2023 – Present	Organizer of the Brown Bag Seminar at the Department of Statistical Sciences
Summer 2020	Team leader in a project to support UBC Department of Statistics 's move to online teaching Roles of the team: preparing teaching materials including lab materials and questions for the in-class activities and quizzes, and meeting with the course instructors and our supervisors.
2018 - 2019	Graduate student liaison to the search for assistant professor in biostatistics at UBC Department of Statistics
	Roles: leading the discussion of graduate students with the candidates, collecting graduate students' opinions, and reporting back to the Search Committee.
2017 - 2019	Organizer of the graduate student seminars at UBC Department of Statistics
2017/08	Volunteer at International Chinese Statistical Association-Canada Chapter Symposium
2014/05	Volunteer at Statistical Society of Canada (SSC) Annual Meeting

PRESENTATIONS

2024/11	Invited presentation at Department of Statistical Sciences Postdoctoral Day Title: "A Semiparametric Approach to Data-Integrated Causal Inference". <i>Slides here</i> .
2024/08	Invited poster at Joint Statistical Meetings (JSM) Title: "A Semiparametric Approach to Data-Integrated Causal Inference". <i>Poster here</i> .
2024/06	Contributed talk at Statistical Society of Canada (SSC) Annual Meeting Title: "A Semiparametric Approach to Data-Integrated Causal Inference". <i>Slides here</i> .
2023/08	Contributed talk at Joint Statistical Meetings (JSM) Title: "Estimation Efficiency under A Semiparametric Density Ratio Model". <i>Slides here</i> .
2022/12	Invited presentation at Department of Statistical Sciences Postdoctoral Day Title: "Density ratio model with data-adaptive basis function". <i>Slides here</i> .
2022/11	Presentation at Reading Group on Learning Title: "An Overview of Transfer Learning – with an emphasis on domain adaptation". <i>Slides here</i> .

- 2022/06 Contributed talk at **Statistical Society of Canada (SSC) Annual Meeting**Title: "Estimation Efficiency under a Two-Sample Density Ratio Model". *Slides here*.
- 2022/05 Invited seminar talk (online) at **Department of Management Sciences**, **City University of Hong Kong**Title: "Semiparametric Inferences under a Density Ratio Model".
- 2021/11 Lightning talk at Canadian Statistical Sciences Institute (CANSSI) Showcase Title: "Density ratio model with data-adaptive basis function". Slides here.
- 2021/06 Research presentation at **Statistical Society of Canada (SSC) Annual Meeting**Title: "Empirical Likelihood Ratio Test on Quantiles under a Density Ratio Model". Slides here.
 Winner of the General Student Research Presentation Award.
- 2020/08 Contributed talk at **Joint Statistical Meetings (JSM)**Title: "Learning the Basis Function in a Semiparametric Density Ratio Model". *Slides here*.
- 2018/12 Research presentation at SFU-UBC Forest Products Stochastic Modelling Group Annual Meeting at FPInnovations
 Title: "Empirical Likelihood Ratio Test on Quantiles under a Density Ratio Model".
- 2018/08 Case study poster session at **Joint Statistical Meeting (JSM)**Joint work with: Ho Yin Ho, Boyi Hu & Yu Wang
 Title: "Uncertainty Quantification of Weather Forecasts".
- 2016/05 Case study poster session at **Statistical Society of Canada (SSC) Annual Meeting**Joint work with: Tommy Guo, Mufan Li, Harris Quach & Yanbo Tang
 Title: "On the Predictive Characteristics for Sustainability of Canadian Charities".