# UTD STANDARD FORMAT FOR FACULTY VITAE

2024/08/01
Jiayi Wang
Natural Sciences and Mathematics
Mathematical Sciences

**Educational History**:

Bachelor, June 2017, Department of Mathematics, Zhejiang University, Zhejiang, China. Statistics.

Ph.D., Aug 2022, Department of Statistics, Texas A&M University, College Station, TX, USA. Statistics. "Reproducing kernel Hilbert Space Modeling in Functional Data Analysis and Causal Inference." Advised by Dr. Raymond Wong.

**Employment History – principal positions since the Bachelor's degree:**

Teaching Assistant, Aug 2017 – June 2022, Department of Statistics, Texas A&M University, College Station, TX, USA.

Data Science Intern, May 2020 – Aug 2020, Amazon, Seattle, WA, USA.

Instructor, June 2021 – July 2021, Department of Statistics, Texas A&M University, College Station, TX, USA.

Assistant Professor, Aug 2022 – present, Department of Mathematical Sciences, University of Texas at Dallas, TX, USA.

**Professional recognitions and honors (study, teaching, research, service):**

National Scholarship, 2016, Zhejiang University

Endeavour Cheung Kong Student Exchange Program Awards, 2016, University of Melbourne

Best Student's Paper Award, 2020, Section on Nonparametric Statistics, American Statistical Association (ASA)

Emanuel Parzen Graduate Research Fellowship Award, 2021, Department of Statistics, Texas A&M University

**Professional memberships:**

American Statistical Association (ASA) 2020—present

International Chinese Statistical Association (ICSA) 2022—present

**Achievements in original investigation:**

**Articles in refereed journals; juried exhibition entries; juried film festival entries; theatrical productions, etc.:**

**Wang, Jiayi**, Raymond K.W. Wong, Mikyoung Jun, Courtney Schumacher, R Saravanan, and Chunmei Sun. "Statistical and machine learning methods applied to the prediction of different tropical rainfall types." *Environmental research communications* 3.11 (2021): 111001.

**Wang, Jiayi**, Raymond KW Wong, and Xiaoke Zhang. "Low-rank covariance function estimation for multidimensional functional data." Journal of the American Statistical Association 117.538 (2022): 809-822.

**Wang, Jiayi**, Raymond K.W. Wong, Shu Yang, and Kwun Chuen Gary Chan. "Estimation of partially conditional average treatment effect by double kernel-covariate balancing." Electronic Journal of Statistics 16.2 (2022): 4332-4378.

**Wang, Jiayi**, Zhengling Qi, and Raymond KW Wong. "Projected state-action balancing weights for offline reinforcement learning." The Annals of Statistics 51.4 (2023): 1639-1665.

Burton, Alexander L., Cheryl Lero Jonson, William T. Miller, and **Jiayi Wang**. "Attitudinal schemas and academy training receptivity: a quasi-experimental study of prison officers." Journal of Experimental Criminology (2024): 1-25.

Gao, Xiyuan, **Jiayi Wang***, Guanyu Hu, and Jianguo Sun. "Functional Causal Inference with Time-to-Event Data." *Statistics in Biosciences* (2024): 1-23.

You, Hojun, **Jiayi Wang**, Raymond K. W. Wong, Courtney Schumacher, R. Saravanand, and Mikyoung Jun. "Prediction of Tropical Pacific Rain Rates with Over-parameterized Neural Networks." *Artificial Intelligence for the Earth Systems* (2024).

* Corresponding author

**Refereed conference publications or abstracts:**

**Wang, Jiayi**, Raymond K.W. Wong, Xiaojun Mao, and Kwun Chuen Gary Chan. "Matrix completion with model-free weighting." *International Conference on Machine Learning*. PMLR, 2021.

**Books/articles accepted for publication:** (note date of acceptance)

**Wang, Jiayi**, Zhengling Qi, and Raymond K.W. Wong. “A Fine-grained Analysis of Fitted Q-evaluation: Beyond Parametric Models.” Accepted by International Conference on Machine Learning. PMLR, 2024/07.

**Books/articles submitted for publication:** (note date of submission and to whom)

**Wang, Jiayi**, Raymond K.W. Wong, Xiaoke, Zhang and Kwun Chuen Gary Chan. “Flexible Treatment Effect Estimation with Functional Treatments.” Submitted to Journal of Machine Learning Research. 2023/07.

Li, Jiangyuan[#], **Jiayi Wang**[#], Raymond K.W. Wong, and Kwun Chuen Gary Chan. “A Pairwise Pseudo-likelihood Approach for Matrix Completion with Informative Missingness.” Submitted to Neural Information Processing Systems. 2024/05.

Zhao, Kun, **Jiayi Wang***, and Yifei Lou. “Low-Rank Matrix Completion via Transformed L1 Regularization and its Theoretical Properties”. Submitted to Neural Information Processing Systems. 2024/05.

**Wang, Jiayi**, Zhengling Qi, and Chengchun Shi. “Blessing from Human-AI Interaction: Super Policy Learning in Confounded Environments.” Major revision submitted to Journal of the American Statistical Association. 2024/07.

[#] Equal first author; * Corresponding author

**Invited talks/presentations at professional meetings, seminars, or colloquia assemblies; invited performances or exhibitions, etc.:**

15th International Conference of the ERCIM WG on Computational and Methodological Statistics, "Blessing from Human-AI Interaction: Super Reinforcement Learning in Confounded Environments.", 2022/12, King’s College London, UK

Statistics seminar at The London School of Economics and Political Science, "Blessing from Human-AI Interaction: Super Reinforcement Learning in Confounded Environments.", 2023/02, London, UK

ASA North Texas Chapter meeting, "Blessing from Human-AI Interaction: Super Reinforcement Learning in Confounded Environments.", 2023/04, Dallas, TX, USA.

ICSA 2023 Symposium, "Flexible Functional Treatment Effect Estimation.", 2023/06, Ann Arbor, MI, USA.

ICSA 2023 China Conference, "Blessing from Human-AI Interaction: Super Reinforcement Learning in Confounded Environments.", 2023/07, Chengdu, China.

Statistics seminar at Indiana University - Purdue University Indianapolis, "Flexible Functional Treatment Effect Estimation.", 2023/10, Indianapolis, IN, USA.

2023 INFORMS, "Blessing from Human-AI Interaction: Super Reinforcement Learning in Confounded Environments.", 2023/10, Phoenix, AZ, USA.

Ecosta 2024, "Matrix Completion with Model-free Weighting.", 2024/07, Beijing, China.

**Refereed talks/presentations at professional meetings; refereed performances or exhibitions, etc.:**
**Contributed (unrefereed) talks/presentations at professional meetings; contributed performances or exhibitions; contributed entries at film festivals, etc.:**

Joint Statistical Meetings 2020, "Low-rank covariance function estimation for multidimensional functional data.", 2020/08, Virtual.

**External funding for original investigations:**
(list in chronological order within each separate subsection; omit this section if not pertinent)

**Proposals submitted:**

Collaborative research: Causal Discovery and Individualized Policy Optimization for Human Text Data
Principal Investigator: Hengrui Cai
Co-Principal Investigator: Jiayi Wang, Annie Qu
Funding Source: NSF-MMS
Start date - End date: 07/2023-06/2026
Amount: $ 187,828
Current status: Rejected

Collaborative research: Causal Discovery and Individualized Policy Optimization for Human Text Data
Principal Investigator: Jiayi Wang
Funding Source: NSF-DMS
Start date - End date: 07/2024-06/2027
Amount: $ 253,610
Current status: Recommended for award

**Grants/contracts awarded:**

Collaborative research: Causal Discovery and Individualized Policy Optimization for Human Text Data
Principal Investigator: Jiayi Wang
Funding Source: NSF-DMS
Start date - End date: 09/01/2024-08/31/2027
Amount: $150,000

**Teaching:**

**Doctoral advisement/direction:**

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|---|---|---|
| Jiacheng Li (co-advised with Yunan Wu) | Expected in 2026 | "Reinforcement learning in causal inference in dynamic individualized treatment decisions (tentative)" |
| Kun Zhao (co-advised with Yifei Lou) | Expected in 2026 | "Regularizations in Matrix Completion and Robust PCA (tentative)" |
| Sungbum Kim | Expected in 2026 | "Compositional Treatments in Causal Inference (tentative)" |

**Masters advisement/direction:**

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|---|---|---|
| Ryan X. Sharp | 2024/05 | A Combinatorial Viewpoint on Few-shot Object Detection |

**Classroom teaching:**

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|---|---|---|---|
| 2022 | Fall | STAT 4360 | Introduction to Statistical Learning |
| 2023 | Spring | STAT 4360 | Introduction to Statistical Learning |
| 2023 | Fall | STAT 4360 | Introduction to Statistical Learning |
| 2024 | Spring | STAT 4360 | Introduction to Statistical Learning |
| 2024 | Fall | STAT 4360 | Introduction to Statistical Learning |

**Other: N/A**

**Service – reviewing, refereeing and administrative work with professional societies and organizations (e.g. editorship, associate editorship, officer, etc.); departmental, college, university committees; community service, etc.:**

2022 Spring
Serve in the Colloquium and Seminar Committee and organize the Statistics seminar.

2023 Fall
Serve in the Search Committee for the Department of Mathematical Sciences.

2022 Fall, 2023 Spring and 2023 Fall
Serve as Capstone project mentors for undergraduate statistics/data science program.

2020—present
Serve as reviewers of
-ICML
-AISTATS
-Journal of the American Statistical Association
-Annals of Applied Statistics
-Bernoulli
-Journal of Computational and Graphical Statistics
-The Canadian Journal of Statistics
-Computational Statistics and Data Analysis
-Electronic Journal of Statistics
-Econometrics and Statistics
-Journal of Multivariate Analysis
-Journal of Nonparametric Statistics
-Stat