Duzhe Wang

CONTACT INFORMATION

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RESEARCH INTERESTS

Causal inference, statistical machine learning, data science in technology, healthcare, and finance industries

EMPLOYMENT

Google Display Ads, Google Mountain View, CA

Data Scientist, Feb. 2023 - Present

- Working on Google Display Ads optimization

Data Science, Scipher Medicine Waltham, MA

Senior Data Scientist, September 2022 - Feb. 2023

- Led data ingestion pipeline for clinical studies and clinical utility evidence generation for precision medicine diagnostic tests in autoimmune diseases

The Statistics, Data, and Analytics Division, Eli Lilly and Company Indianapolis, IN

Research Scientist, Jan. 2021 - Aug. 2022

- Led post-regulatory evidence generation in medical affairs, market access, and real-world studies for Lilly rheumatology and diabetes portfolio

Advanced Analytics and Data Sciences, Eli Lilly and Company Indianapolis, IN

Research Intern in Machine Learning, May 2019-Aug. 2019

- Developed boosting algorithms for individualized treatment recommendation

EDUCATION

University of Wisconsin-Madison Madison, WI

Ph.D. in Statistics, December 2020
Minor in Computer Science (machine learning track)

- Dissertation: "Efficient statistical learning of complex data"
- Advisor: Po-Ling Loh

University of Florida Gainesville, FL

M.S. in Mathematics, May 2015

- Cumulative GPA: 4.0/4.0

Jilin University Changchun, China

B.S. in Mathematics, June 2013

- Major GPA: 91/100, overall rank: 2/100

Honors and Awards

Lilly Innovator Awards, 2021 & 2022

Lilly USA Showcase Awards, 2022

JSM Virtual Travel Award, ASA Wisconsin Chapter, 2020

Student Paper Award, ASA Statistical Learning and Data Science Section, 2020

Student Paper Award, ASA Biopharmaceutical Section, 2020

Graduate Scholarship, UW-Madison, 2015 - 2020

Graduate Scholarship, UF, 2013 - 2015

Outstanding Graduate Award, UF, 2014 & 2015

Outstanding Undergraduate Student Award, Jilin University, 2013

Ping An Scholarship, Ping An Insurance of China, 2012

Outstanding Undergraduate Researcher Award, Jilin University, 2012

First Prize in Mathematical Contest in Modeling, Jilin University, 2011

Undergraduate Scholarship, Jilin University, 2009 - 2013

Publications

le Roux CW, Hankosky ER, **Wang, D.**, Malik R, Yu M, Hickey A, Kan H, Bunck MC, Stefanski A, Garcia-Perez LE, Wharton S. Tirzepatide 10 and 15 mg compared with semaglutide 2.4 mg for the treatment of obesity: An indirect treatment comparison. *Diabetes Obes Metab. 2023 Jun 21*

Fautrel, B., Wu, J., **Wang, D.**, Haladyj, E., van de Laar, Mart A. F. J., and Takeuchi, T. Relative Impact of Pain and Disease Activity on Improvements in Fatigue: Results From 2 Baricitinib Phase 3 Clinical Trials. *JCR: Journal of Clinical Rheumatology: December 7, 2022*

Wang, D. and Loh, P. 2020. Robust estimation in high-dimensional sparse heteroscedastic linear models. *Submitted.*

Wang, D. and Loh, P. 2020. Adaptive estimation and statistical inference for high-dimensional graph-based linear models. *Submitted.*

Wang, D., Fu, H., and Loh, P. 2020. Boosting algorithms for estimating optimal individualized treatment rules. *Submitted.*

Conference abstracts

Wang, D., Malik, R., Yu, M., Kan, H., Bunck, M., Stefanski, A., Luis-Emilio Garcia-Perez, and Hankosky, E. Tirzepatide vs. Semaglutide 2.4 mg for Overweight and Obesity: An Indirect Treatment Comparison. *2022 Obesity Week, the Obesity Society*

Wang, D. Robust estimation in high-dimensional sparse heteroscedastic linear models. *2022 Joint Statistical Meetings*

Lipkovich, I., Kadziola, Z., **Wang, D.**, and Faries, D. Evaluation of different analytic strategies for estimating optimal treatment regimens for time-to-event outcomes in observational data. *2022 ASA Biopharmaceutical Section Regulatory-Industry Statistics Workshop*

Lipkovich, I., Kadziola, Z., **Wang, D.**, and Faries, D. Evaluation of machine learning approaches for estimating individualized treatment regimens for time-to-event outcomes in observational studies. *2022 WNAR/IMS/JR Annual Meeting*

Pope, J., Wu, J., **Wang, D.**, Ji, J., Griffing, K., and Strand V. An independent treatment effect of baricitinib in reducing fatigue after adjusting for clinical disease activity: Results from the RA-BEACON Phase 3 trial. *2022 CRA & AHPA Annual Scientific Meeting*

Sholter, D., Wu, J., **Wang, D.**, Quebe, A., Griffing, K., and Bykerk V. Rapid Clinical Response in Patients with Moderately to Severely Active Rheumatoid Arthritis Treated with Baricitinib. *2022 CRA & AHPA Annual Scientific Meeting*

Sebba, A., **Wang, D.**, Jia, B., Troutt, J., Birt, J., Quebe, A., and Taylor, P. Pain in Patients with Rheumatoid Arthritis Who Did or Did Not Achieve Treatment Response Based on Improvement in Swollen Joints with Baricitinib Clinical Trials. *Arthritis Rheumatol. 2021; 73 (suppl 10).*

Presentations

Robust estimation in high-dimensional sparse heteroscedastic linear models. JSM, 2022.

Precision medicine from a statistical point of view: Boosting algorithms for estimating optimal individualized treatment rules. Invited talk at Scipher Medicine, 2022.

Boosting algorithms for estimating optimal individualized treatment rules. JSM Virtual Conference, 2020.

Boosting algorithms for estimating optimal individualized treatment rules. Invited talk at Eli Lilly and Company, 2020.

Boosting algorithms for estimating optimal individualized treatment rules. Invited talk at Boehringer Ingelheim, 2020.

Boosting algorithms for individualized treatment recommendation. ENAR Spring Meeting, 2020.

Estimating graph-based regression coefficients in high-dimensional linear models. Midwest Machine Learning Symposium, 2018.

Teaching Experience

Instructor

Department of Statistics, UW-Madison & Department of Mathematics, UF
Taught large undergraduate classes (around 140 students per semester), coordinated with other instructors, supervised a group of teaching assistants, constructed the course website, and developed the teaching material

- STAT324: Introductory Applied Statistics for Engineers — Fall 2019 & Spring 2019
- STAT371: Introductory Applied Statistics for Life Sciences — Spring 2018 & Fall 2017
- MGF1107: Math for LS Majors — Summer 2015
- MAC2311: Calculus I — Summer 2014

Teaching assistant

Department of Statistics, UW-Madison & Department of Mathematics, UF
Led discussions (around 3 sessions per semester), wrote weekly quizzes, administered online homework, graded all assessments, and interacted individually with students during office hours. Ranked top percent in TA evaluation

- STAT641: Statistical Methods for Clinical Trials — Spring 2017
- STAT311: Mathematical Statistics — Spring 2017
- STAT324: Introductory Applied Statistics for Engineers — Fall 2016 & 2015
- STAT371: Introductory Applied Statistics for Life Sciences — Summer 2016 & Spring 2020
- STAT327: R programming — Spring 2016
- STAT479: Statistical Machine Learning — Spring 2016
- MAC2311: Calculus I — Spring 2015, Fall 2014 & Spring 2014

- MAC1147: Precalculus Fall 2013

Professional service and leadership

2022 JSM session chair, "Causal Inference for Dynamic Treatment and Mediation"
Reviewer, Annals of the Institute of Statistical Mathematics
Reviewer, Journal of Machine Learning Research (JMLR)
Reviewer, Journal of the Royal Statistical Society: Series B
Reviewer, Statistical Science
Reviewer, Biometrika
Reviewer, Statistics in Medicine
Reviewer, Scandinavian Journal of Statistics
Student representative, Statistics Department Climate and Diversity Committee, 2018 - 2019
President, UW-Madison Statistics Graduate Student Association, 2017 - 2018
Founder, UW-Madison ASA Student Chapter, 2017
Vice President, Jilin University Mathematical Modeling Association, 2009 - 2011

Skills

- Computer Skills: R, Python, Matlab, SAS (SAS Certified Base Programmer for SAS 9 & SAS Certified Advanced Programmer for SAS 9), Github, Linux, SQL, LaTeX
- Languages: English(fluent), Chinese(native)

Last updated date: July 7, 2023