Weiguang Wang

Carey Business School, Johns Hopkins University
Email: www@jhu.edu Website: www.bigdataist.com

Positions

- Assistant Professor, Johns Hopkins University, Carey Business School, 2024-
- Assistant Professor, University of Rochester, Simon Business School, 2021-2024
- Research Scholar, Inovalon Health Insights AI Lab, 2017-2020
- Oak Ridge Institute for Science and Education (ORISE) Fellow, the Food and Drug Administration (FDA), 2018-2019

Research Interests

- AI in Health
- Human-AI Interactions
- AI Solution for Business
- Digital Health

Education

- Ph.D. Information Systems, Robert H. Smith School of Business, University of Maryland, College Park
- Master of Management Science, Institute of Policy and Management, Chinese Academy of Sciences
- Bachelor of Management Science, School of Management, University of Science and Technology of China

Journal Papers (Published and Accepted)

1. Weiguang Wang, Guodong (Gordon) Gao, Ritu Agarwal, 2023, "Friend or Foe? The Interaction between Human and Artificial Intelligence on Performance in Medical Chart Coding." **Management Science.**

2. Chewei Liu, Weiguang Wang, Guodong (Gordon) Gao, Ritu Agarwal, 2023, "The Value of Virtual Engagement: Evidence from a Running Platform." **Management Science.**

3. Weiguang Wang, Junjie Luo, Michelle Dugas, Guodong (Gordon) Gao, Ritu Agarwal, Rachel M. Werner, 2022, "Recency of Online Physician Ratings." **JAMA Internal Medicine**,182(8):881-883.

4. Weiguang Wang, Natasha Z Foutz, Guodong (Gordon) Gao, 2022, "Huddling with Families after Disaster: Human Resilience and Social Disparity." **PLOS One**, 17(9), p.e0273307.

5. Michelle Dugas, Weiguang Wang, Kenyon Crowley, Anand Iyer, Malinda Peeples, Mansur Shomali, and Guodong (Gordon) Gao, 2020, "Engagement and Outcomes Associated with Contextual Annotation Features of a Digital Health Solution." **Journal of Diabetes Science and Technology**, 16(4), pp.804-811.

6. Yiye Zhang, Richard Trepp, Weiguang Wang, Jorge Luna, David K. Vawdrey, and Victoria Tiase, 2018, "Developing and Maintaining Clinical Decision Support Using Clinical Knowledge and Machine Learning: The Case of Order Sets." **Journal of the American Medical Informatics Association**, 25(11), 1547-1551.

7. Niam Yaraghi, Weiguang Wang, Gordon Gao, and Ritu Agarwal, 2018, "How Online Quality Ratings Influence Patients' Choice of Medical Providers: Controlled Experimental Survey Study." **Journal of Medical Internet Research**, 20(3), p.e99.

8. Haijing Hao, Kunpeng Zhang, Weiguang Wang, and Gordon Gao, 2017, "A Tale of Two Countries: International Comparison of Online Doctor Reviews Between China and the United States." **International Journal of Medical Informatics**, 99, pp.37-44.

9. Feng Feng, Leiyong Zhang, Yuneng Du, and Weiguang Wang, 2015, "Visualization and Quantitative Study in Bibliographic Databases: A Case in The Field of University–Industry Cooperation.", **Journal of Informetrics**, 9(1), pp.118-134.

10. Xi Zhang, <u>Weiguang Wang</u>, Patricia Ordóñez de Pablos, Jing Tang, and Xiangda Yan, 2015, "Mapping Development of Social Media Research through Different Disciplines: Collaborative Learning in Management and Computer Science.", **Computers in Human Behavior**, 51, pp.1142-1153.

11. Xi Zhang, Patricia Ordóñez de Pablos, Xiaojiong Wang, <u>Weiguang Wang</u>, Yongqiang Sun, and Jinghuai She, 2014, "Understanding the Users' Continuous Adoption of 3D Social Virtual World in China: A Comparative Case Study", **Computers in Human Behavior**, 35, pp.578-585.

Completed Working Papers

- "How mHealth Helps Informationally Disadvantaged Mothers: The Role of Family Information Provision and Family Structure." with Yanfang Su, Gordon Gao, and Ritu Agarwal
- "Knowledge Trap: Human Experts Distracted by Details When Teaming with AI." with Xiaopei Liu, Xi Zhang, and Yili (Kevin) Hong
- "The Impact of Stigmatizing Language in EHR Notes on AI Performance and Fairness." with Yizhi Liu, Gordon Gao and Ritu Agarwal
- "Misinformed Clout: Evidence from a Field Experiment." with Hongfei Li and Yili (Kevin) Hong
- "Socializing Social Bots on Social Media."
- "User Engagement and Empathetic Social Chatbot."
- "Heterogenous Patient Responses to Healthcare Data Breach." with Junyuan Ke, and Natasha Z Foutz
- "Two Sides of the Same Coin: Effects of Different Samplings for Online Video Platforms." with Xiaopei Liu, Ravi Mentena, and Xi Zhang

Conference and Workshop Presentations

1. Yizhi Liu, <u>Weiguang Wang</u>, Gordon Gao and Ritu Agarwal, "The Impact of Stigmatizing Language in EHR Notes on AI Performance and Fairness", International Conference on Information Systems (ICIS), Hyderabad, India, Dec 10-13, 2023.

2. <u>Weiguang Wang</u>, "Socializing Social Bots on Social Media", Business & Generative AI Workshop, San Francisco, CA, September 8, 2023.

3. <u>Weiguang Wang</u>, "Fitness Social Bot on Social Media", Health Promotion and Development Forum and CHPAMS Annual Meeting, July 8-10, 2023. Scholarship award $1,000.

4. <u>Weiguang Wang</u>, Xiaopei Liu, Xi Zhang, and Yili (Kevin) Hong, "Knowledge Trap: Human Experts Distracted by Details When Teaming with AI", China Summer Workshop on Information Management (CSWIM), Changsha, China, June 24-25, 2023. (Best paper award finalist.)

5. <u>Weiguang Wang</u>, Yanfang Su, Gordon Gao, and Ritu Agarwal, "How mHealth Helps Informationally Disadvantaged Mothers: The Role of Family Information Provision and Family Structure", China Summer Workshop on Information Management (CSWIM), Changsha, China, June 24-25, 2023.

6. Yizhi Liu, Weiguang Wang, Gordon Gao and Ritu Agarwal, "People Talking and AI Listening: How Stigmatizing Language in EHR Notes Affects AI Performance and Fairness", Conference on Health It and Analytics (CHITA), Washington DC, May 5-6, 2023.

7. <u>Weiguang Wang</u>, Xiaopei Liu, and Xi Zhang, "Knowledge Trap: Encyclopaedical Experts Think Too Much of Details to Team with Concentrated AI", 2022 INFORMS Annual Meeting, Indianapolis, IN, October 16-19, 2022.

8. Junyuan Ke, and <u>Weiguang Wang</u>, "Can You Hear Me? Social Cost of YouTube's Anti-Spam Policy on the Deaf Community", 2022 INFORMS Annual Meeting, Indianapolis, IN, October 16-19, 2022.

9. Xiaopei Liu, Ravi Mentena, Xi Zhang, and <u>Weiguang Wang</u>, "Impact of Product and Platform Level Sampling on the Sale of Online Video Courses", Pacific Asia Conference on Information Systems (PACIS), July 5-9, 2022.

10. Chewei Liu, and <u>Weiguang Wang</u>, "When High Social Connection Becomes Lethal: Exploring the User Adaptation to Radical Environmental Changes on a Physical Activity Platform", Conference on Health It and Analytics (CHITA), March 4-5, 2022.

11. Junyuan Ke, <u>Weiguang Wang</u>, and Natasha Foutz, "Consumer Response to Healthcare Cybersecurity Crisis: Insights from Location Big Data", Conference on Health It and Analytics (CHITA), March 4-5, 2022.

12. <u>Weiguang Wang</u>, Yanfang Su, Gordon Gao, and Ritu Agarwal, "mHealth in Need is mHealth Indeed: mHealth's Effect and Low Family Informational Support", Workshop on Information Systems and Economics (WISE), Austin, TX, December 16-17, 2021. (Best Paper Award Nominee)

13. Junyuan Ke, <u>Weiguang Wang</u>, and Natasha Foutz, "Consumer Response to Healthcare Cybersecurity Crisis: Insights from Location Big Data", Journal of Marketing Research 2021 Mitigation in Marketing Research Workshop, September 20-21, 2021.

14. Maya Mudambi, Kenyon Crowley, Michelle Dugas, <u>Weiguang Wang</u>, Di Hu, Anand K. Iyer, Malinda Peeples, Mansur Shomali, Guodong (Gordon) Gao, "Predicting Success with a Diabetes mHealth Application from Early Usage Data", Virtual Diabetes Technology Meeting, November 12-14, 2020.

15. <u>Weiguang Wang</u>, Natasha Zhang Foutz, and Gordon Gao, "Family Bonding in Disruptive Natural Disaster", 2020 INFORMS Annual Meeting, National Harbor, MD, November 8-11, 2020. (RUNNERS-UP for the eBusiness Section Best Paper Award)

16. Chewei Liu, <u>Weiguang Wang</u>, Guodong Gao, and Ritu Agarwal, "The Virtualization of Large Social Events: Effects on Platform Users", Conference on Information Systems and Technology (CIST), November 7-8, 2020.

17. Chewei Liu, <u>Weiguang Wang</u>, Guodong Gao, and Ritu Agarwal, "The Virtualization of Large Social Events: Effects on Platform Users", Conference on Health It and Analytics (CHITA), October 8-10, 2020.

18. Allan Fong, Shimae Fitzbiggons, Jack Sava, <u>Weiguang Wang</u>, Nicholas R. Wegener, James Christian, Erin C. Hall, "Correlating Physiologic Measures of Stress: Exploring Dyads in Clinical Surgical Teams", 64th International Annual Meeting of Human Factors and Ergonomics Society (HFES), October 5-9, 2020.

19. <u>Weiguang Wang</u>, Gordon Gao, and Ritu Agarwal, "Friend or Foe? The Influence of Artificial Intelligence on Human Performance in Medical Chart Coding", Conference on Information Systems and Technology (CIST), Seattle, WA, October 19-20, 2019.

20. <u>Weiguang Wang</u>, Gordon Gao, and Ritu Agarwal, "Friend or Foe? The Influence of Artificial Intelligence on Human Performance in Medical Chart Coding", INFORMS Healthcare, Boston, MA, July 27-29, 2019.

21. <u>Weiguang Wang</u>, Yanfang Su, Gordon Gao, and Ritu Agarwal, "Determinants of mHealth Effectiveness: Evidence from a Large-Scale Experiment", INFORMS Healthcare, Boston, MA, July 27-29, 2019.

22. Michelle Dugas, Kenyon Crowley, <u>Weiguang Wang</u>, Anand K. Iyer, Malinda M. Peeples, Mansur Shomali, Guodong Gao, "Beyond Tracking: The Benefits of Contextual Annotation in a Diabetes Digital Therapeutic.", American Diabetes Association's 79th Scientific Sessions, San Francisco, CA, June 7-11, 2019.

23. <u>Weiguang Wang</u>, Kenyon Crowley, Michelle Dugas, Anand K. Iyer, Malinda M. Peeples, Mansur Shomali, and Guodong (Gordon) Gao, "Early Engagement Measures Can Accurately Identify Users at Risk of Abandoning Digital Therapeutics in Type 2 Diabetes.", AcademyHealth 2019 Annual Research Meeting, Washington, DC, June 2-4, 2019.

24. Michelle Dugas, <u>Weiguang Wang</u>, Kenyon Crowley, Anand K. Iyer, Malinda M. Peeples, Mansur Shomali, Guodong Gao, "A Novel Approach to Assess Patient Burden Using Data from a Digital Therapeutic for Type 2 Diabetes Predicts Glucose Outcomes.", Association for Psychological Science Annual Convention, Washington, DC, May 23-26, 2019.

25. <u>Weiguang Wang</u>, Margrét V. Bjarnadóttir, and Gordon Gao, "How AI Plays its Tricks: Interpreting the Superior Performance of Deep Learning-Based Approach in Prediction.", POMS 30th Annual Conference, Washington DC, May 2-6, 2019.

26. <u>Weiguang Wang</u>, "Using Deep Learning to Improve Healthcare Quality and Efficiency.", Workshop on Information Technologies and Systems (WITS), Santa Clara, CA, December 16-18, 2018. (Best Dissertation proposal Nominee)

27. Aishwarya Deep Shukla, <u>Weiguang Wang</u>, Gordon Gao, and Ritu Agarwal, "Catch Me If You Can - Detecting Fake Online Reviews Using Deep Learning.", Workshop on Information Systems and Economics (WISE), San Francisco, CA, December 17-18, 2018.

28. Haijing Hao, Hongtu Chen, Sue Levkoff, <u>Weiguang Wang</u>, and Dan Zhu, "What Can Online Support Provide for Caregivers of Patients with Alzheimer's Disease in China? A Text Mining Approach Toward Online Health Communication.", 2018 HITS- Health Information Technology Symposium, San Francisco, CA, December 13, 2018.

29. <u>Weiguang Wang</u>, Margrét V. Bjarnadóttir, and Gordon Gao, "How AI Plays its Tricks: Interpreting the Superior Performance of Deep Learning-Based Approach in Prediction.", Conference on Health IT and Analytics (CHITA), Washington DC, October 19-20, 2018.

30. <u>Weiguang Wang</u>, Min Chen, Gordon Gao, and Jeffrey S. McCullough, "Surfing the Ocean of Digital Health Data: A Deep Learning Approach to Precise Readmission Prediction", Conference on Information Systems and Technology (CIST), Phoenix, AZ, November 3-4, 2018.

31. <u>Weiguang Wang</u>, Margrét V. Bjarnadóttir, and Gordon Gao, "Deep-learning-based Approach for Precise Health Cost Prediction.", INFORMS Annual Meeting, Phoenix, AZ, November 4-5, 2018.

32. <u>Weiguang Wang</u> and Gordon Gao, "A Deep Learning Approach to Better Understanding of Hospital Quality.", INFORMS Annual Meeting, Phoenix, AZ, November 4-5, 2018.

33. <u>Weiguang Wang</u>, Helen Jiang, Asiyah Yu Lin, Zhou Feng, Tony Du, and Nilsa Loyo-Berrios, "Test Mining on Medical Device Report (MDR) for Postmarked-Surveillance and Evaluation of Breast Implant Associated Anaplastic Large Cell Lymphoma (BIA-ALCL)", FDA Annual Summer Student Scientific Poster Day, White Oak, MD, August 1, 2018.

34. Mark Jung, Michael Wu, Asiyah Yu Lin, Helen Jiang, <u>Weiguang Wang</u>, Zhou Feng, Tony Du, and Nilsa Loyo-Berrios, "Building a Comprehensive Breast Implant Ontology Leveraging GUDID and Unstructured Data Sources", FDA Annual Summer Student Scientific Poster Day, White Oak, MD, August 1, 2018.

35. Yanfang Su, <u>Weiguang Wang</u>, Benjamin Campbell, and Gordon (Gordon) Gao, "How can mHealth Keep New Moms out of the Blue? Evidence of the Heterogeneous Treatment Effects on Depression from a Large-Scale Field Experiment", 2017 Connected Health Conference (CHC17), Boston, MA, October 25-27, 2017.

36. Chewei Liu, <u>Weiguang Wang</u>, Gordon Gao and Ritu Agarwal, "Leveraging Social Norms and Implementation Intentions for Better Health", International Conference for Smart Health (ICSH), Hong Kong, China, Jun 26-27, 2017. (ICSH 2017 Best Paper Nominee)

37. <u>Weiguang Wang</u> and Gordon Gao, "The Role of Quality and Competition in Physician Public Reporting: The Case of PQRS", Bridging the Minds in Health Policy: 1st Conference of CHPAMS & CHR, Atlanta, GA, May 13-15, 2016.

38. Aishwarya Shukla, <u>Weiguang Wang</u>, Gordon Gao, and Ritu Agarwal, "Using Machine Learning to Analyze Fraudulent Reviews", The 7th Annual Workshop on Health IT and Economics (WHITE 2016), Washington DC, October 21-22, 2016.

39. <u>Weiguang Wang</u>, Niam Yaraghi, Gordon Gao, and Ritu Agarwal, "How Online Comments and Government Ratings Affect Patients' Opinion of Medical Providers?", INFORMS Annual Meeting, Nashville, TN, November 13-16, 2016.

40. <u>Weiguang Wang</u> and Gordon Gao, "Voluntary Quality Disclosure among Physicians: The Case of PQRS", International Conference on Information Systems 2016 (ICIS 2016), Dublin, Ireland, December 11-14, 2016.

Professional Activities

- Founding member of the Health Insights AI Lab (with $300k start funding) at the University of Maryland, 2015-2020

- Ad Hoc Reviewer for: Management Science, Information Systems Research, MIS Quarterly, INFORMS Journal on Computing, INFORMS Journal on Data Science, Journal of the Association for Information Systems (JAIS), International Conference of Information Systems (ICIS), Pacific Asia Conference on Information Systems (PACIS), Conference on Information Systems and Technology (CIST), Workshop on Information Technologies and Systems (WITS), IEEE International Conference on Big Data, INFORMS Workshop on Data Science, Information Systems Frontiers, Winter Conference on Business Analytics (WCBA)
- Session chair of WISE 2021, INFORMS Annual Meeting 2022, and INFORMS Annual Meeting 2024
- Associate editor of ICIS 2023, ICIS2024, Member of the Program Committee of CIST 2022, CIST 2023, CIST 2024

Honors and Awards

- 2024, Graduate Teaching Honor Roll of Simon Business School (top 3 across the school), University of Rochester
- 2021, Graduate Teaching Honor Roll of Simon Business School (top 3 across the school), University of Rochester
- 2018, Oak Ridge Institute for Science and Education (ORISE) Fellowship from the Food and Drug Administration (FDA), $50,000
- 2017, Fall 2016 Teaching Innovation Support Awards, with Gordon Gao and Wei Chen: Data Visualization for Business Analytics and Communication, $5,000
- 2016, International Conference Student Support Award (ICSSA) from University of Maryland
- 2013, Second Prize of the 13th Academic Research Competition Week in Institute of Policy and Management, Chinese Academy of Sciences
- 2009, Yang Ya Alumni Scholarship
- 2009, Outstanding Student Research Program "Comparative Analysis on Operating Policy of Science and Technology in the Pan-Yangtze River Delta"