Yu (Adam) Ding

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Objective

Ph.D. in Industrial and Systems Engineering focusing on machine learning methodology for healthcare data analysis. My current researches involve machine learning method and optimization algorithms development to understand intratumor heterogeneity and cancer evolution using multi-omics data.

Professional Experience

- **The University of Texas MD Anderson Cancer Center** — *Supervisor: Dr. Wenyi Wang*
  Postdoctoral Research Fellow — Sep 2024 – Present, Houston, Texas
- **The University of Kansas School of Business**
  Research Assistant in Operations Management — May 2019 – Jul 2020, Lawrence, Kansas

Education

- **Binghamton University** — *Advisor: Dr. Bing Si*
  Ph.D. in Industrial and Systems Engineering (Machine Learning for Healthcare) — Aug 2020 – Aug 2024, Vestal, New York
- **Wayne State University**
  M.S. in Industrial Engineering (Reliability / ML) — Aug 2017 – Apr 2019, Detroit, Michigan
- **University of Science and Technology of China**
  B.S. in Geophysics (Quantitative Methods in Solid Geophysics) — Aug 2013 – Jun 2017, Anhui, China

Publications

J: Journal, D: Dissertation, *: corresponding author

[J.6] **Ding, Y.**, Somers, V., Si, B.* (2025). **A novel sparse generalized structural equation modeling with structured sparsity for subgroup discovery from multi-modal mixed-type data**. *IISE Transactions*, 1–15. DOI: 10.1080/24725854.2024.2445776

[D.1] **Ding, Y.** (2024). **Statistical Machine Learning and Data Fusion Methodologies: Applications in Healthcare**. *Binghamton University*.

[J.5] Sutherland, M. A.*, Hutchinson, M. K., Si, B., **Ding, Y.**, Liebermann, E., Connolly, S. L., … Mueller, S. D. (2024). **Health screenings in college health centers: Variations in practice**. *Journal of American College Health*, 1–8. DOI: 10.1080/07448481.2024.2361307

[J.4] Mueller, S. D.* , Sutherland, M. A., Hutchinson, M. K., Si, B., **Ding, Y.**, Connolly, S. L. (2024). **Student Health Services at Historically Black Colleges and Universities and Predominantly Black Institutions in the United States**. *Health Equity*, 8(1): 226–234. DOI: 10.1089/heq.2023.0219

[J.3] Alramadeen, W., **Ding, Y.**, Costa, C., Si, B.* (2023). **A novel sparse linear mixed model for multi-source mixed-frequency data fusion in telemedicine**. *IISE Transactions on Healthcare Systems Engineering*, 13(3): 215–225. DOI: 10.1080/24725579.2023.2202877; **Feature Article, ISE Magazine**

[J.2] Jiang, L., **Ding, Y.**, Sutherland, M. A., Hutchinson, M. K., Zhang, C., Si, B.* (2022). **A novel sparse model-based algorithm to cluster categorical data for improved health screening and public health promotion**. *IISE Transactions on Healthcare Systems Engineering*, 12(2): 137–149. DOI: 10.1080/24725579.2021.1980467

[J.1] **Ding, Y.**, Yang, Q.*, King, C. B., Hong, Y. (2019). **A general accelerated destructive degradation testing model for reliability analysis**. *IEEE Transactions on Reliability*, 68(4): 1272–1282. DOI: 10.1109/TR.2018.2883983

Manuscripts

M: Manuscript, *: corresponding author

[M.5] Jahedi, A.*, Unal, M., **Ding, Y.**, Nurmammadova, A., Liu, Y. (2025). **Boundary-Specific Remodeling Defines Divergent TLS Maturation in Colorectal Cancer**. *Allison Institute Scientific Symposium, 2025*

[M.4] **Ding, Y.**, Costa, C., Si, B.* (2025). **Federated function-on-function regression with an efficient gradient boosting algorithm for privacy-preserving telemedicine**. Manuscript minor revision *IEEE Transactions on Automation Science and Engineering*; **QCRE Best Student Paper Finalist, IISE 2024 [🌐]**

[M.3] Mueller, S.*, **Ding, Y.**, Si, B., Sutherland, M., Hutchinson, K. (2025). **Access to Campus Health Services at MSI and Non-MSI Colleges and Universities in the U.S.**. Submitted to *Nursing Research*

[M.2] **Ding, Y.**, Costa, C., Si, B.* (2025). **Vertical Federated Learning of Gradient Boosting for Functional Regression with Differential Privacy**. Submitted to *IEEE Transactions on Privacy*

[M.1] Ding, Y., Si, W.* (2025). **Multi-System Conditional-Based Maintenance Planning with Social Equity**. Ready to submit to *Management Science*

Honors and Awards

- **Warren Alpert Computational Biology and AI Network Fellow** *Aug 2025*
  UCLA Computational Genomics Summer Institute
- **Best Team Award** *Apr 2025*
  James P. Allison Institute and IDSO Hackathon
- **QCRE Best Student Paper Competition Finalist** *May 2024*
  IISE Annual Conference & Expo
- **National Science Foundation (NSF) Travel Awards** *May 2024*
  The University of Arizona
- **Watson Professional Development Fund** *Apr 2024*
  SUNY Binghamton
- **Summer Research Fellowship** *Apr 2020*
  The University of Kansas
- **University Graduate Fellowship** *Aug 2019*
  The University of Kansas
- **Graduate Fellowship** *Aug 2018*
  Wayne State University
- **National Encouragement Scholarship** *Aug 2016*
  University of Science and Technology of China
- **Kansas Half Marathon Finisher Price** *Oct 2019*
  Kansas Half Marathon

Conference Presentations and Invited Talks

- **Federated function-on-function regression with an efficient gradient boosting algorithm for privacy-preserving telemedicine**, Department of Radiation Oncology, Mayo Clinic Arizona, Phoenix AZ, July 1st, 2024
- **Federated function-on-function regression with an efficient gradient boosting algorithm for privacy-preserving telemedicine**, IISE Conference, Montreal, Canada, May 18th, 2024 [🌐]

Teaching Experience

- **Rice University** [🌐]
  Guest Lecturer Spring 2025
  - Statistics 623/423: Probability in Bioinformatics and Genetics (lectures, reviews, exam questions, office hours)
- **Binghamton University**
  Guest Lecturer Spring 2024
  - SSIE 548 / ISE 448: Healthcare Data Science & Analytics (12 lectures, reviews, Q&A)
  - Teaching Evaluation Score: 4.5/5.0
- **Wayne State University**
  Teaching Assistant Spring 2018
  - IE 6430: Computer Simulation Methods (graduate)
- **Wayne State University**
  Teaching Assistant Fall 2017
  - IE 7270: Reliability Estimation (graduate)

Grant Writing Experience

- **Grant preparation with Ph.D. advisor Dr. Bing Si**
  Binghamton University
  - NIH/NHLBI R01HL168173: Sleep and Cardiometabolic Subgroup Discovery and Risk Prediction in U.S. Adolescents and Young Adults. Amount: $2,452,065
  - NIH/NHLBI R21HL161765: Towards Precise Phenotype Discovery of Obstructive Sleep Apnea with a Data-Inclusive Multi-Study Analysis. Amount: $242,770

◦ SUNY-IBM AI Research Alliance: Ray-F2R-FL: Ray-based Functional Regression with Federated Learning. Amount: $200,000

- **Summer Research Fellowship**
  The University of Kansas
  ◦ Independently wrote a Student-Led Research Grant proposal. Amount: $5,000

PROFESSIONAL MEMBERSHIPS

- Institute of Industrial and Systems Engineers (IISE)
- INFORMS (Institute for Operations Research and the Management Sciences)
- IEEE (Institute of Electrical and Electronics Engineers)

PROFESSIONAL SERVICE

- Journal reviewer — IEEE Transactions on Medical Imaging
- Journal reviewer — IISE Transactions on Healthcare Systems Engineering
- Lab Manager — Microstructure Manufacturing Lab, Wayne State University
- Seminar Organizer and Volunteer — Wayne State University

ADDITIONAL INFORMATION

Programming Languages and Tools: Python, C/C++, R, Java, LaTeX, MySQL, CUDA

Last updated: September 27, 2025