Xiaorui (Jeremy) Zhu

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Education

Ph.D.	Business Analytics	University of Cincinnati	2016 - 2022
M.Sc.	Finance	Pennsylvania State University	2014 - 2015
M.Sc.	Applied Statistics	Beijing University of Technology	2012 - 2014
B.S.	Statistics	Capital University of Economics and Business	2007 - 2011

Research

Research Interests:

- high dimensional statistical inference; machine learning; discrete data analysis;
- asset-pricing; default prediction in finance;
- creativity; online learning.

Major Working Papers:

- **Zhu, X.**, Xing, Y., & Yu, Y. (2022), Zooming in on Distress Anomaly: Bankruptcy vs. Other Failures, *under review*.
- **Zhu, X.**, Qin, Y., & Wang, P. (2022), Sparsified Simultaneous Confidence Intervals for High-Dimensional Linear Models, *under review at Metrika*.
- **Zhu, X.**, Li, S., Srinivasan, K., & Lash, M. (2022), Predicting the Stock Market during the COVID-19 Pandemic, *R&R at Decision Support Systems*.
- **Zhu, X.**, Lin, Z., Liu, D., & Greenwell, B. (2023), SurrogateRsq: an R package for categorical data goodness-of-fit analysis using the surrogate R-squared, *under review*.
- Mingsheng Li, Karen Liu, **Zhu, X.** (2023), Is Delisting from NASDAQ Too Costly? *revised and resubmitted*.

Publications:

- Li, S., Yu, Y., Tian, S., **Zhu, X.**, & Lian, H. (2022), Corporate Default Probability: A Discrete Single-Index Hazard Model Approach, *Journal of Business & Economic Statistics*, DOI: 10.1080/07350015.2022.2120484.
- Liu, D., **Zhu, X.**, & Greenwell, B. (2022), A New Goodness-of-fit Measure for Probit Models: Surrogate R^2, *British Journal of Mathematical and Statistical Psychology*, 76, 192– 210.
- Li, S., **Zhu, X.**, Chen, Y., & Liu, D. (2020). PAsso: an R Package for Assessing Partial Association between Ordinal Variables. *The R Journal*. 13, no. 2: 135.
- Jablokow, K. W., **Zhu, X.**, & Matson, J. V. (2020). Exploring the diversity of creative prototyping in a global online learning environment. *International Journal of Design Creativity and Innovation*, 8(2), 102-124.
- **Zhu, X.**, & Xie, L. (2016). Adaptive quasi-maximum likelihood estimation of GARCH models with Student's t likelihood. *Communication in Statistics:Theory and Methods*, 45(20), 6102-6111.
- Jablokow, K. W., **Zhu, X.**, Matson, J. V., & Kakde, A. N. (2016, June). Stimulating creativity in online learning environments through intelligent fast failure, *ASEE Annual Conference and Exposition, Conference Proceedings* (Vol. 2016).

Research In Progress:

- "Using Surrogate R-squared to Assess Logistic Models in Bankruptcy Analysis: Explainability, Predictability, and Comparability", with Dungang Liu.

R Packages:

- SurrogateRsq: an R Package for evaluating the goodness of fit or categorical data analysis.
- PAsso: an R Package for assessing the partial association between ordinal variables.
- SPSP: an R Package for selecting relevant predictors by partitioning the solution paths (SPSP).
- SSCI: an R Package for constructing the sparsified simultaneous confidence intervals (SSCI).

Presentations

- "A new goodness-of-fit measure for categorical data goodness-of-fit analysis: surrogate R-squared", BFF8, Cincinnati, OH, May 2023.
- "Measuring goodness-of-fit for logit model and its application to U.S. and Polish bankruptcy prediction", ICSA Applied Statistics Symposium, Gainesville, FL, June 2022.
- "Zooming in on Distress Risk: Bankruptcy vs. Other Failures", INFORMS Annual Meeting, Oct 2021.
- "Surrogate R^2 for Probit Models", INFORMS Annual Meeting, Virtual, Nov 2020.
- "Demystifying Differences between Bankruptcy and Other Failures in Terms of Major Drivers and Risk-Return Relationship", **Session Chair**, INFORMS Annual Meeting, Seattle, WA, Oct 2019.
- "Conducting Inference of Coefficients and Model for High-Dimensional Sparse Linear Model", INFORMS 3rd Workshop on Data Science (Peer-Reviewed), Seattle, WA, Oct 2019.
- "Simultaneous Confidence Intervals Using Entire Solution Paths", The Fourth Workshop on Higher-Order Asymptotics and Post-Selection Inference (WHOA-PSI), St. Louis, MO, August 2019.
- "Simultaneous Confidence Intervals Using Entire Solution Paths", The Joint Statistical Meetings (JSM), Denver, CO, July 2019.
- "What drivers Bankruptcy and Other Failures? An Analysis with Variable Selection", INFORMS Annual Meeting, Data Science Workshop (Peer-Reviewed), Phoenix, AZ, November 2018.
- "Additive Logistic Model with Stochastic Macroeconomic Covariates for Corporate Bankruptcy Prediction". The Joint Statistical Meetings (JSM), Baltimore, MD, August 2017.
- "Amplifying Creativity in Big Data Era: Relationship between creativity and failure". The 7th International Forum on Statistics, Beijing, China, 2016.

Teaching

Independent Instructor:

- EBTM 350 - Business Analytics, Towson University

- BANA 7050 - Forecasting and Time Series Methods (Graduate level, Spring 2020, 41 students) Github website
- BANA 7025 - Data Wrangling (Graduate program core course, Fall 2021 58 students)
- BANA 7046 - Data Mining I (Graduate program core course, Spring 2021 29 students) Github website
- BANA 4090 - Forecasting and Risk Analysis (Under-Grad, Fall 2019 54 students)
- BANA 2081 - Business Analytics I (Under-Grad core course, both in-person and online)
  - Fall 2021, 60 students
  - Spring 2018, 36 students
  - Fall 2018, 33 students

Teaching Assistant:

- Statistical Modeling, Statistics Method (I & II), Business Analytics, Data Mining (Lab Instructor), Statistical Computing.

Awards

○ 2021 Comer-Reynolds Memorial Award	*American Statistical Association Cincinnati Chapter*	2021
○ Student Travel Award	*WHOA-PSI Workshop*	2019
○ GSG Research Fellowship ($1,500)	*University of Cincinnati*	2019
○ Chancellor's Scholarship ($5,000)	*Penn State University*	2014
○ CFA Scholarship	*CFA Association*	2014
○ Excellent Thesis	*Beijing University of Technology*	2013
○ Several Excellent Students Awards	*CUEB*	2007 - 2011
○ Second Class Prize of Math Competition	*CUEB*	2009
○ National Scholarship for Encouragement	*China*	2008
○ 2008 Beijing Olympic Game Outstanding Volunteer	*China*	2008
○ Second Class Prize of National Olympiad in Informatics	*China*	2006

Work Experience

Adjunct Instructor (part of graduate assistantship) 08/21/2016 - 08/08/2022
University of Cincinnati, OH
Supervisor: Dr. Craig Froehle

Research Assistant 08/21/2016 - 08/08/2022
University of Cincinnati, OH
Supervisor: Dr. Yan Yu & Dr. Yichen Qin

Teaching Assistant 08/21/2019 - 08/08/2022
University of Cincinnati, OH
Supervisor: Dr. Craig Froehle

Research Analyst 12/01/2014 - 02/28/2015
The Pennsylvania State University, PA
Supervisor: Dr. Kathryn W. Jablokow

Statistician 2011 - 2012
IMS Health Inc., Beijing

Professional Service

Session Chair, *"Data Science and Machine Learning: Methods and Applications"* 10/2019
INFORMS Annual Meeting 2019

Referee, *Journal of the American Statistical Association, Statistics and Computing, The New England Journal of Statistics in Data Science, International Journal of Biostatistics, Journal of Data Science, Central European Journal of Economic Modeling and Econometrics, Managerial Finance, Applied Economics*

President, *Student Chapter of INFORMS at University of Cincinnati* 07/2019 - 12/2021

- ○ Led the board members to develop a diverse and inclusive community
- ○ Connected students with external professionals in the Cincinnati area
- ○ Hosted an annual career panel for the students to receive advice from professionals for getting a job and being successful once in a job

President, *BearStats Statistics Club, ASA Student Chapter, University of Cincinnati* 08/2020 - 12/2021

Treasure, *The Lindner Graduate Students Association (LGSA), University of Cincinnati* 04/2017 - 04/2018

Vice-President/Fundraiser/Director of Liaison Department 07/2009 - 07/2010
Student Union, the Capital University of Economy and Business

Volunteer 06/2008 - 10/2008
2008 Beijing Olympic Games