Xiaorui (Jeremy) Zhu

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Positions

Assistant Professor (Tenure-track)	Towson University	2022 - present

Education

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

Research

Research Interests

- machine learning, discrete data analysis, high dimensional statistical inference;
- information systems, sentiment analysis,
- risk management, default prediction, and asset pricing in finance;
- creativity, open online learning.

Publications (Google Scholar)

- **Zhu, X.**, Li, S., Srinivasan, K., & Lash, M. (2023), Impact of the COVID-19 pandemic on the stock market and investor online word of mouth. *Decision Support Systems*, 114074 (A* in ABDC list).

- Li, S., Yu, Y., Tian, S., **Zhu, X.**, & Lian, H. (2022), Corporate Default Probability: A Single-Index Hazard Model Approach. *Journal of Business & Economic Statistics*, 1-12 (A* in ABDC list, top 5 journals in Statistics and Economics areas).

- Li, M., Liu, K, **Zhu, X.** (2023), Is Delisting from NASDAQ Too Costly? *Research in International Business and Finance*, accepted.

- Liu, D., **Zhu, X.**, Lin, Z., & Greenwell, B. (2022) A new goodness-of-fit measure for probit models: Surrogate R^2. *British Journal of Mathematical and Statistical Psychology*, 76(1), 192-210.

- Li, S., **Zhu, X.**, Chen, Y., & Liu, D. (2021) PAsso: an R Package for Assessing Partial Association between Ordinal Variables. *The R Journal* 13(2):239-252.

- 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).

Major Working Papers

- **Zhu, X.**, Qin, Y., & Wang, P. (2022), Sparsified Simultaneous Confidence Intervals for High-Dimensional Linear Models, invited revision at *Metrika International Journal for Theoretical and Applied Statistics* (dissertation work).

- Xing, Y., Yu, Y., & **Zhu, X.** (2022), Zooming in on Distress Risk: Bankruptcy vs. Other Failures, under review (dissertation work).

- **Zhu, X.**, Liu, D., Lin, Z., & Greenwell, B., SurrogateRsq: an R Package for categorical data goodness-of-fit analysis using the surrogate R^2, under review.

○ **Zhu, X.**, Liu, D., Using Surrogate R^2 to Assess Logistic Models in Bankruptcy Analysis: Explainability, Predictability, and Comparability, manuscript.

Research In Progress

○ Corporate Bankruptcy Prediction: A Penalized Semiparametric Index Hazard Model Approach, with Shaobo Li, Yan Yu, and Shaonan Tian (The data collection, most of the analyses, and a draft are ready).

○ Are the Talk from Different Channels on Social Media Impacting Firms' Financial Performance Differently? with Shaobo Li and Michael Lash (The data collection is done. Developing models).

○ Individual and Group Effect of Remaining Lifetime at a Fashion Resale Platform, with Feng Cheng and Lina Wang (A pilot study with preliminary analyses was done a year ago. Collecting more comprehensive data to check the robustness. Drafting a manuscript).

○ COVID-19 Pandemic's Impact on the Industry-level Credit Risk, with Stanley Peterburgsky and Yan Yu (The data collection is done. Developing models).

Softwares (R Packages)

○ SurrogateRsq: an R Package for categorical data goodness-of-fit analysis.

○ SSCI: an R Package for sparsified simultaneous confidence intervals.

○ 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.

Presentations

○ "Assessing Partial Association between Ordinal Variables Using PAsso R Package for American National Election and U.S. Bankruptcy", Invited talk, NESS 37th New England Statistics Symposium, Boston, MA, May 2023.

○ "Using surrogate R-squared to assess logistic models in bankruptcy analysis: explainability, predictability, and comparability", 2023 Symposium on Data Science and Statistics, St. Louis, Missouri, May 2023.

○ "A new goodness-of-fit measure for categorical data goodness-of-fit analysis: surrogate R^2", 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 Anomaly: 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

Teaching at Towson:

- EBTM 350 - Business Analytics (In-person and online)

  Sample comments from students evaluations:

  - "Thank you for teaching me this semester. The stuff I learned in your class was extremely valuable and I plan to apply it to my summer internship."
  - "I thoroughly enjoyed your class as it was challenging and applicable to life."
  - "Using R-Studio was a challenge to learn but I am very grateful you pushed and supported us throughout the process."

- EBTM 490 - Business Analytics Directed Reading (Data Mining)

Independent Instructor at UC:

- BANA 7050 - Forecasting and Time Series Methods (Graduate level)
  Github website

- BANA 7025 - Data Wrangling (Graduate program core course)
  Github website

- BANA 7046 - Data Mining I (Graduate program core course)
  Github website

- BANA 4090 - Forecasting and Risk Analysis (Under-Grad)

- BANA 2081 - Business Analytics I (Under-Grad core course, taught both in-person and online)

  Sample comments from students evaluations:

  - "Thank you for a great semester. I thought you did very well for your first time teaching."
  - "Extremely well organized. Someone could not be more organized than Xiaorui. His notes and use of GitHub are fantastic and greatly appreciated."
  - "At many different times throughout the course it was evident that he genuinely has concern for students learning and their health related to Covid-19"
  - "I want to say thank you for last semester, as it was my first exposure with coding. You made it quite easier to understand and how to actually use it to solve problems that I hope to use later in life."
  - "Thank you for an amazing learning experience. I got to learn lots of things about time series forecasting and I want to keep on exploring new things this summer."

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

Research Analyst   2014-2015
The Pennsylvania State University, PA
Statistician   2011-2012
IMS Health Inc., Beijing

Professional Service

Referee, *Journal of the American Statistical Association, Applied Economics, Managerial Finance, Statistics and Computing, British Journal of Mathematical and Statistical Psychology*

President, *Student Chapter of INFORMS at University of Cincinnati*	07/2019 - 2022
President, *BearStats Student Statistics Club, ASA Student Chapter at UC*	08/2020 - 2022
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