Matthew Stuart

Assistant Professor of Applied Statistics
Loyola University Chicago

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Employment

- Loyola University Chicago – Department of Mathematics and Statistics
  Assistant Professor of Applied Statistics – 2022-Present
- Iowa State University – Center for Survey Statistics and Methodology (CSSM)
  Research Assistant – 2016-2017, 2020-2022
- SpiderSmart Katy Learning Center
  Online Instructor – 2021 - 2022
- Iowa State University – Department of Statistics
  Teaching Assistant – 2017-2019
- Transamerica Life Insurance Company
  Actuarial Student – 2014
  Actuarial Intern – 2013

Education

- **Ph.D.** Statistics – Iowa State University, July 2022
  Dissertation: "Statistical applications in actuarial science: From cryptocurrency to meme stocks to crop insurance"
- **M.S.** Statistics – Iowa State University, May 2019
  Creative Component: "A computationally efficient method for selecting a split questionnaire design"
- **B.S.B.A.** Actuarial Science – Drake University, May 2014

Publications

Journal Publications

- **Stuart, M.** and Yu, C. (2020), A computationally efficient method for selecting a split questionnaire design, *Communications in Statistics - Simulation and Computation*, Published online
  https://www.tandfonline.com/doi/full/10.1080/03610918.2019.1697819

Articles Ready to be Submitted

- Inverse Leverage Effect: From Cryptocurrencies to Meme Stocks (with Follett, L., Kou S., and Yu, C.) (Winner of 2021 American Statistical Association Best Student Paper Award for Business and Economics Section and 2021 Vince Sposito Award for Excellence in Statistical Computing and Research Excellence Award from Iowa State University)

Articles in Preparation

- The Impact of Stocks on Crop Insurance Premiums using Semiparametric Quantile Regression with Penalized B-Splines (with Hennessy, D. and Yu, C.)

Honors

- American Statistical Association (AS)
  - 2021 Best Student Paper Award of the ASA Business & Economics Section
- Iowa State University
  - 2021 Research Excellence Award Recipient
  - 2021 Vince Sposito Award winner for Excellence in Statistical Computing
  - 2020 Teaching Excellence Award Recipient
- SOA Exams Passed
  - Exam C/4: May 2014
  - Exam MLC/3L: November 2013
  - Exam MFE/3F: March 2013
  - Exam P/1: January 2012
  - Exam FM/2: August 2011

Teaching Experience

Courses Instructed

- Iowa State University
  - STAT 430: *Empirical Methods for the Computational Sciences*
    - Independent lecturer for graduate level course for Computational Statistics – Fall 2019
    - Taught concepts such as confidence intervals, t-tests, method of moments, maximum likelihood, and Bayesian statistics
    - Provided `R` code for students to apply their learning to real life situations
  - STAT 226: *Introduction to Business Statistics I*
    - Independent lecturer for undergraduate level course for business statistics – Fall 2017, Spring 2018, Fall 2018, Spring 2019
    - Taught concepts such as normal distribution, central limit theorem, confidence intervals, hypothesis testing, and linear regression
    - Ran weekly review session in Spring 2019 to help students review concepts that were troubling them
- SpiderSmart Katy Learning Center
  - AP Statistics
    - Independent lecturer for high school level course to prepare students for the AP Statistics Exam – Summer 2021 to Present
    - Taught concepts such as normal distribution, linear regression, sampling and experimental methods, and probability theory

Courses as Lab Assistant

- Iowa State University
  - STAT 326: *Introduction to Business Statistics II*
    - Lab Assistant for undergraduate level course for business statistics – Summer 2019
    - Instructed Concepts such as multiple linear regression, ANOVA, and prediction intervals

Research Experience

Center for Survey Statistics and Methodology

- National Resources Inventory (NRI) Grazingland Survey: 2020-Present

  Assisted in weighting for single year and multi-year weights for NRI pastureland and rangeland surveys to help assess trends and status of health conditions on nonfederal grazinglands

- Pet Demographic Survey (PDS): 2016-2017

  Assisted in developing a representative survey for and calculating point estimates for the 5-year PDS from the American Veterinary Medical Association (AVMA)

Conference Presentations

Invited Presentations

- "Estimation of Asset Models with Stochastic Volatility and Asymmetric Laplacian Jumps and its Application to Cryptocurrency", 2021 Joint Statistical Meetings (JSM), Best Student Paper Award Presentation, Virtual 2021.
- "Estimation of Asset Models with Stochastic Volatility and Asymmetric Laplacian Jumps and its Application to Cryptocurrency", 14^{th} International Conference of Computational and Financial Econometrics, Virtual, 2020.

Contributed Presentations

- "A computationally efficient method for selecting a split questionnaire design", 2020 Communications on Statistical Practices (CSP), Sacramento, CA, 2020.
- "A computationally efficient method for selecting a split questionnaire design", 2019 Joint Statistical Meetings (JSM), Denver, CO, 2019.

Professional Services

- Referee for Journal: Statistical Methods and Applications
  - Invited to review a paper on split questionnaire design, related to my Master's Creative Component
- Survey Working Group Student Coordinator

  Spring 2022
  - Organized the schedule and weekly meetings for the survey working group
- Graduate and Professional Student Senator (GPSS)

  Fall 2019-Spring 2021
  - Represented the Department of Statistics in the Graduate Student Senate
  - Aided in passing annual budgets and developing a new GPSS constitution
- Member of student organizations Stat-ers and StatCOM
  - Volunteered in annual STEAM night, which provides activities to teach statistics to elementary school students

Skills

Technological Skills

- R, C++, JMP, Excel, Shiny