# Matthew Stuart

ASSISTANT PROFESSOR OF APPLIED STATISTICS
LOYOLA UNIVERSITY CHICAGO

✉ mstuart1@luc.edu      ✉ mstuart2097.github.io
📱 712-269-2802      in Matthew Stuart

## 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. (2022), A computationally efficient method for selecting a split questionnaire design, *Communications in Statistics - Simulation and Computation*, Vol. 51, No. 5, 2464-2486.
  https://doi.org/10.1080/03610918.2019.1697819

### ARTICLES UNDER REVISION OR REVIEW

- Follett, L., Kou, S., **Stuart, M.**, and Yu, C. (2022) [alph.], Inverse Leverage Effect for Cryptocurrencies and Meme Stocks: a Comprehensive Framework, submitted to *Journal of Financial Economics*

### 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.)

## Conference Presentations

### Invited Presentations

- "Inverse Leverage Effect for Cryptocurrencies and Meme Stocks: a Comprehensive Framework", Fall 2022 Loyola University Data Science Seminar

- "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", 14th 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.

## Teaching Experience

### Courses Instructed

- Loyola University, Chicago

  - STAT 308: *Applied Regression Analysis* – Fall 2022
    * Taught concepts such as multiple linear regression, ANOVA, prediction intervals, model selection, and logistic regression
  - STAT 103: *Fundamentals of Statistics* – Fall 2022
    * Taught concepts such as probability theory, normal distribution, central limit theorem, confidence intervals, hypothesis testing, and linear regression

- Iowa State University

  - STAT 430: *Empirical Methods for the Computational Sciences* – Fall 2019
    * Taught concepts such as confidence intervals, t-tests, method of moments, maximum likelihood, and Bayesian statistics
  - STAT 226: *Introduction to Business Statistics I* – 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 – Summer 2021, Fall 2021

  - AP Statistics
    * 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* – 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)

## Honors

- American Statistical Association (ASA)
  - 2021 Best Student Paper Award of the ASA Business & Economics Section ("Estimation of asset models with stochastic volatility and asymmetric Laplacian jumps and its application to cryptocurrency")
- 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

## 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