

# Lu Yang

School of Statistics  
385 Ford Hall  
224 Church St SE  
Minneapolis, MN 55455, USA

Email: [luyang@umn.edu](mailto:luyang@umn.edu)  
Homepage: <https://cla.umn.edu/about/directory/profile/luyang>

---

## Education

### **Ph.D.** - Statistics

University of Wisconsin-Madison, Madison, WI, USA

September 2012 - August 2017

Advisors: Professor Edward W. Frees and Professor Zhengjun Zhang

Thesis Topic: Copula Regression with Discrete Outcomes

### **B.S.** - Mathematics and Applied Mathematics

Zhejiang University, Hangzhou, China

September 2008 - June 2012

## Academic Positions

### **Assistant Professor** - Statistics

October 2020 - Present

School of Statistics, University of Minnesota, Minneapolis, USA

### **Assistant Professor** - Actuarial Science and Mathematical Finance

August 2017 - October 2020

Amsterdam School of Economics, University of Amsterdam, Amsterdam, The Netherlands

## Research Interests

Multivariate analysis

Regression model diagnostics

Nonparametric methods

Insurance analytics

## Publications and Working Papers

1. Frees, E.W., Lee, G., **Yang, L.** (2016) Multivariate Frequency-Severity Regression Models in Insurance, *Risks*, Vol. 4, p. 4.
2. Shi, P., **Yang, L.** (2018) Pair Copula Constructions for Insurance Experience Rating, *Journal of the American Statistical Association*, Vol. 113, pp. 122-133.
3. **Yang, L.**, Shi, P. (2019) Multiperil Rate Making for Property Insurance Using Longitudinal Data, *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, Vol. 182, pp. 647-668.
4. **Yang, L.**, Frees, E.W., Zhang, Z. (2020) Nonparametric Estimation of Copula Regression Models with Discrete Outcomes, *Journal of the American Statistical Association*, Vol. 115, pp. 707-720.

5. **Yang, L.** (2020) Nonparametric Copula Estimation for Mixed Insurance Claim Data, *Journal of Business & Economic Statistics*, to appear.
6. **Yang, L.** (2020) Diagnostics for Regression Models with Discrete Outcomes Using Surrogate Empirical Residual Distribution Functions, submitted. URL <https://arxiv.org/abs/1901.04376>.

## Professional Activities

### Invited Presentations

<b>Diagnostics for Regression Models with Discrete Outcomes</b> Seminar, School of Statistics, University of Minnesota, USA	February 2020
<b>Dependence Modeling of Mixed Insurance Claim Data</b> Seminar, Department of Statistics, The Ohio State University, USA	February 2020
<b>Two-Part D-Vine Copula Models for Longitudinal Insurance Claim Data</b> Seminar, Department of Mathematics, University of Illinois, USA	January 2020
<b>Diagnostics for Regression Models with Discrete Outcomes</b> Seminar, Department of Statistics and Actuarial Science, University of Waterloo, Canada	January 2020
<b>Diagnostics for Regression Models with Discrete Outcomes</b> Seminar, Department of Statistics, Purdue University, USA	January 2020
<b>Diagnostics for Regression Models with Discrete Outcomes</b> Seminar, Department of Statistics, University of Illinois, USA	January 2020
<b>Nonparametric Copula Estimation for Mixed Insurance Claim Data</b> CFE-CMStatistics 2019, London, UK	December 2019
<b>Diagnostics for Regression Models with Discrete Outcomes</b> Seminar, Department of Statistics, University of British Columbia, Canada	December 2019
<b>Vine Copulas for Discrete and Mixed Data</b> Invited lecture, FWO (Research Foundation - Flanders) Research Network on Asymptotic Theory of Multivariate Statistics, Hasselt University, Belgium	November 2019
<b>Multi-Peril Ratemaking for Property Insurance Using Longitudinal Data</b> 2019 Joint Statistical Meetings, Denver, CO, USA	July 2019
<b>Two-Part D-Vine Copula Models for Longitudinal Insurance Claim Data</b> Workshop on Vine Copulas and their Applications, Munich, Germany	July 2019
<b>Diagnostics for Regression Models with Discrete Outcomes</b> Seminar, Department of Statistics, The Ohio State University, USA	April 2019
<b>Two-Part D-Vine Copula Models for Longitudinal Insurance Claim Data</b> Seminar, Department of Risk and Insurance, University of Wisconsin-Madison, USA	March 2019
<b>Multivariate Discrete Outcomes: from Marginal Model Diagnostics to Nonparametric Copula Estimation</b> Seminar, Department of Statistical Sciences, University of Toronto, Canada	February 2019
<b>Multivariate Discrete Outcomes: from Marginal Model Diagnostics to Nonparametric Copula Estimation</b> Seminar, Department of Statistics and Actuarial Science, University of Waterloo, Canada	January 2019
<b>Two-Part D-Vine Copula Models for Insurance Claim Data</b> CFE-CMStatistics 2018, Pisa, Italy	December 2018

**Nonparametric Estimation of Copula Regression Models with Discrete Outcomes**

Statistics in Insurance Workshop, Madison, WI, USA

October 2018

**Copula Regression with Discrete Outcomes**

Seminar on Statistics and Risk Management, Chair of Mathematical Statistics, Technical University of Munich, Germany

May 2018

**Multivariate Frequency-Severity Regression Models in Insurance**

CFE-CMStatistics 2017, London, UK

December 2017

**A "New" Method to Model Data with Outliers**

Internship final presentation, The Travelers Companies, St Paul, MN, USA

August 2015

## Contributed Presentations

**Diagnostics for Regression Models with Mixed Insurance Claim Data**

The 54th Actuarial Research Conference, Indianapolis, IN, USA

August 2019

**Diagnostics for Regression Models with Mixed Insurance Claim Data**

The 23rd International Congress on Insurance: Mathematics and Economics, Munich, Germany

July 2019

**Multi-Peril Ratemaking for Property Insurance Using Longitudinal Data**

The 4th European Actuarial Journal Conference, Leuven, Belgium

September 2018

**Nonparametric Estimation of Copulas with Discrete Outcomes**

The 10th Conference in Actuarial Science &amp; Finance on Samos, Samos, Greece

June 2018

**Copula Regression with Discrete Outcomes**

The 51st Actuarial Research Conference, Minneapolis, MN, USA

July 2016

Referee: *Insurance: Mathematics and Economics*, *Journal of Nonparametric Statistics*, *Risk Analysis*, *European Actuarial Journal*, *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, *Statistica Sinica*, *Journal of Multivariate Analysis*

## Honors

**Veni grant finalist**

2019

A personal grant targeting outstanding young researchers, offered by the Dutch Research Council (NWO). The award rate is 10%.

**Simons CRM Scholar**

2018

Selected by the scholar-in-residence program of the Centre de recherches mathématiques (in Montreal, Canada) for research visit with financial support

**Presentation Prize**, 10th Conference in Actuarial Science & Finance on Samos

2018

**Presentation Prize**, Actuarial Research Conference

2016

**Student Travel Award**, Actuarial Research Conference

2016

## Research Stays

McGill University, Montreal, Canada (3 months, with Christian Genest and Johanna Nešlehová)

February 2019 - April 2019

University of Wisconsin-Madison, Madison, US (1 week, with Peng Shi)

March 2019

Technical University of Munich, Munich, Germany (1 week, with Claudia Czado)

May 2018

## Teaching Experience

### Teaching Certificate

University Teaching Qualification (BKO), Dutch accredited teaching certificate for higher education  
University of Amsterdam March 2018

### Lecturer and Course Coordinator

Amsterdam School of Economics, University of Amsterdam

- Introduction Data Science: Data Preprocessing (BSc in Actuarial Science and Econometrics, 1st year) 2019  
Developed the new course for students with data science specialization
- Risk Management for Insurers and Pensions (MSc in Actuarial Science and Mathematical Finance) 2017, 2018, 2019

**Teaching Assistant**, led tutorials and computer lab sessions  
Amsterdam School of Economics, University of Amsterdam

- Life Insurance Mathematics (BSc in Actuarial Science, 2nd year) 2017, 2018, 2019, 2020
- Introduction Actuarial Science and OR (BSc in Actuarial Science, 1st year) 2018, 2019
- Empirical Project (BSc in Actuarial Science, 2nd year) 2018, 2019

**Master Thesis Supervision**, supervised 10 master theses on various topics in insurance and finance  
Amsterdam School of Economics, University of Amsterdam 2018, 2019, 2020

**Bachelor Thesis Supervision**, supervised 9 bachelor theses on various topics in insurance and finance  
Amsterdam School of Economics, University of Amsterdam 2019, 2020

### Volunteer

Developed glossaries for *Loss Data Analytics*, part of the Open Actuarial Textbooks Project 2019

**Teaching Assistant**, led discussions, held office hours, graded homework, exams and projects. Ranked top ten percent in TA evaluation.

Department of Statistics, University of Wisconsin-Madison

- STAT 349 (Intermediate, Undergraduate): Introduction to Time Series Spring 2015
- STAT 571 (Graduate): Statistical Methods for Bioscience Fall 2014
- STAT 310 (Intermediate, Undergraduate): Introduction to Probability and Mathematical Statistics Fall 2013
- STAT 371 (Introductory, Undergraduate): Introductory Applied Statistics for the Life Sciences Spring 2013
- STAT 301 (Introductory, Undergraduate): Intro-Statistical Methods Fall 2012

**Head TA**, supervised and helped other TAs to improve and ensure teaching excellence  
Department of Statistics, University of Wisconsin-Madison Fall 2013, Spring 2015

### Project Assistant

Risk and Insurance Department, University of Wisconsin-Madison Fall 2015 - Spring 2017

- Built website to provide additional learning materials such as data and code for *Predictive Modeling Applications in Actuarial Science*, a two volume series written for practicing actuaries for continuing education purpose.
- Helped build the materials for the course *Loss Model*. Created multimodal presentations such as interactive visualizations and built R tutorials.

## Industry Experience

### **Advanced Analytics Intern**

The Travelers Companies, St Paul, MN, USA

June 2015 - August 2015

## Languages

R, Python, MatLab

*Last update: November 3, 2020*