# Lu Yang

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## 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. **Yang, L.** (2020) Diagnostics for Regression Models with Discrete Outcomes Using Surrogate Empirical Residual Distribution Functions. URL https://arxiv.org/abs/1901.04376.

2. **Yang, L.** (2020) Nonparametric Copula Estimation for Mixed Insurance Claim Data, *Journal of Business & Economic Statistics*, to appear.

3. **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.

4. **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.

5. Shi, P., **Yang, L.** (2018) Pair Copula Constructions for Insurance Experience Rating, *Journal of the American Statistical Association*, Vol. 113, pp. 122-133.

6. Frees, E.W., Lee, G., **Yang, L.** (2016) Multivariate Frequency-Severity Regression Models in Insurance, *Risks*, Vol. 4, p. 4.

# Professional Activities

Invited Presentations

**Diagnostics for Regression Models with Discrete Outcomes**
Seminar, School of Statistics, University of Minnesota, USA February 2020

**Dependence Modeling of Mixed Insurance Claim Data**
Seminar, Department of Statistics, The Ohio State University, USA February 2020

**Two-Part D-Vine Copula Models for Longitudinal Insurance Claim Data**
Seminar, Department of Mathematics, University of Illinois, USA January 2020

**Diagnostics for Regression Models with Discrete Outcomes**
Seminar, Department of Statistics and Actuarial Science, University of Waterloo, Canada January 2020

**Diagnostics for Regression Models with Discrete Outcomes**
Seminar, Department of Statistics, Purdue University, USA January 2020

**Diagnostics for Regression Models with Discrete Outcomes**
Seminar, Department of Statistics, University of Illinois, USA January 2020

**Nonparametric Copula Estimation for Mixed Insurance Claim Data**
CFE-CMStatistics 2019, London, UK December 2019

**Diagnostics for Regression Models with Discrete Outcomes**
Seminar, Department of Statistics, University of British Columbia, Canada December 2019

**Vine Copulas for Discrete and Mixed Data**
Invited lecture, FWO (Research Foundation - Flanders) Research Network on Asymptotic Theory of Multivariate Statistics, Hasselt University, Belgium November 2019

**Multi-Peril Ratemaking for Property Insurance Using Longitudinal Data**
2019 Joint Statistical Meetings, Denver, CO, USA July 2019

**Two-Part D-Vine Copula Models for Longitudinal Insurance Claim Data**
Workshop on Vine Copulas and their Applications, Munich, Germany July 2019

**Diagnostics for Regression Models with Discrete Outcomes**
Seminar, Department of Statistics, The Ohio State University, USA April 2019

**Two-Part D-Vine Copula Models for Longitudinal Insurance Claim Data**
Seminar, Department of Risk and Insurance, University of Wisconsin-Madison, USA March 2019

**Multivariate Discrete Outcomes: from Marginal Model Diagnostics to Nonparametric Copula Estimation**
Seminar, Department of Statistical Sciences, University of Toronto, Canada February 2019

**Multivariate Discrete Outcomes: from Marginal Model Diagnostics to Nonparametric Copula Estimation**
Seminar, Department of Statistics and Actuarial Science, University of Waterloo, Canada January 2019

**Two-Part D-Vine Copula Models for Insurance Claim Data**
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 & 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 4, 2020*