

## Yiqun Jiang

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### EDUCATION

#### Iowa State University

Doctor of Philosophy in Industrial Engineering

Research Assistant

Ames, Iowa

May 2024 (Expected)

GPA: 3.89/4.0

#### University of Wisconsin-Madison

Master of Science in Statistics

Madison, Wisconsin

June 2019

#### East China Normal University

Bachelor of Science in Statistics

Shanghai, China

May 2018

### WORK EXPERIENCE

#### Research Assistant at Iowa State University

Iowa, U.S.

Research Assistant

September 2019 – Present

- Implemented machine learning models with PyTorch and developed innovative information technologies to benefit healthcare
- Analyzed surface topography data in additive manufacturing, construct similarity evaluation system
- Conducted defect detection for manufactured parts with point cloud data by deep learning models

#### Publications:

ICU Outcome prediction using real-time signals with wavelet transform-based convolutional neural network

*Information Systems Research*, in progress

ICU Mortality Prediction: Can We Do Better? A New Model Based on Machine Learning and Stochastic Signal Analysis Techniques

*JAIS Special Issue*, in revision

Investigating the relationship of porcine reproductive and respiratory syndrome virus RNA detection between adult/sow farm and wean-to-market age categories

*PLOS one*, accepted

Similarity quantification of 3D surface topography measurements

*Measurement*, accepted

### SELECTED PROJECTS

#### Association Study, at Iowa State University

Iowa, U.S.

Statistical consultant

January 2020 – March 2021

- Helped the researchers in Veterinary Medicine construct statistical models and control charts for monitoring PRRSV positive rates
- Contributed to the real time updated systems for PRRSV positive rates
- Wrote and revised the statistical analysis report

#### Scenario Reduction for Power System Planning Problem, at Iowa State University

Iowa, U.S.

Statistical programmer

September 2020 – December 2020

- Analyzed the Power System Planning Problem, and develop the objective functions and related constraints
- Conducted scenario reduction for stochastic programming problem
- Wrote python scripts to calculate the estimation results

#### Filtered Historical Simulation applied in foreign exchange options, at East China Normal University

Shanghai, China

Statistical programmer

May 2015 – May 2016

- Gathered related data from Wind Terminal, matched the data by date and had the data cleaned, taking account of missing data and extreme data
- Researched and applied Filtered Historical Simulation based on a variety of GARCH Model, to simulate value-at-risk (VaR) of foreign exchange options
- Wrote programs based on MATLAB and EViews to do empirical analysis: 1) Fitted the implied volatility curve of the option using the Implied Volatility Function (IVF) Model to deal with missing data of implied volatility quoted by China Foreign Exchange Trade System. 2) Predicted risk factors and then estimated VaR using different GARCH Models, based on different hypotheses of the distribution of residuals (normal, t, skewed-t, GED and jump distribution)
- Applied comparative analysis to evaluate the effectiveness of the forecast of these combinations of models and hypotheses

### ORGANIZATIONS

#### IISE

Professional Member

March 20121 - Present

### SKILLS/QUALIFICATIONS

- Proficient in Statistics & Math theory and application through academic coursework, passed Ph.D. qualifying exams
- Skillful in using R and Python, familiar with R Shiny and pytorch
- Familiar with MATLAB, JAVA, and high-performance computing platform (HPC)
- Fluent in Chinese and English (written and verbal)
- Research interests including: machine learning, deep learning, multivariate analysis, and statistical learning