Mengran Li

Personal Summary

I have an excellent foundation and experience in Computational Statistics, statistical modeling and R programming. I am currently searching for a PhD position in Statistics to develop my academic career.

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Mengran Li
MengranLi-git

Education

2021 – 2022 **MSc in Statistics** *Glasgow, Scotland, UK*
University of Glasgow

2015 – 2019 **BSc in Statistics** *Chengdu, China*
Southwestern University of Finance and Economics
Thesis: Analysis of public opinion heat and emotion based on Hidden Markov model

2017 – 2019 **BSc in Finance (Minor)** *Chengdu, China*
Southwestern University of Finance and Economics
Thesis: Performance evaluation of fund managers

Research & Academics

2021 – present **Research on Extreme Values of Streamflow in the U.S.A**
Assistant *Glasgow, Scotland, UK*
Exploratory data analysis:
Summary statistics, kernel smoothing, and expected shortfall were applied to extract meaningful information from the data, detect patterns, etc. Hydorlogic maps were drawn by an R package leaflet and the feature of streamflow was presented via R packages gganimate. R packages data.table and tidyverse were used for data wrangling.
Non-stationary GEV models:
The nsGEV model was applied to identify the trends of hydrological extremes and estimate the resolution of return levels in the U.S.A. The uncertainty assessment was determined via bootstrapping. They were realized through R programming.

2018 – 2019 **Research on Public Opinion Heat and Emotion** *Chengdu, China*
Thesis
Got bullet screen text and video information on bilibili website through R package rvest. The NLPIR word segmentation system of Chinese Academy of Sciences was employed to analyze the emotion of barrage text. The entropy weight method was proposed to calculate the popularity of public opinion, and the hidden Markov model was established to analyze the characteristics of different stages of public opinion dissemination.

2017 — 2018 Research on Tort Relief of Malicious Claims
The National Social Science Fund of China *Chengdu, China*
Data Analysis
Empirical analysis:
The degree of malice between the insurer and the insured, and the support of court decisions were quantified. The linear model was applied to identify the relationship among variables.

2018 American Mathematical Modelling Contest
Modeller
How American states perform on clean energy:
The GLM helped to better characterize how the energy profile of the states. The analytic hierarchy process (AHP) model was applied to measure the importance among different states through MATLAB.
Prediction of energy profile of each state:
The same variables from the GLM model were inherited to construct the vector auto regression (VAR) model. And E-views generated the prediction of energy profile of each state. Finally won the second prize.

2017 Statistical Modeling Contest *Chengdu, China*
Team Leader
The default behavior of telecom users was predicted based on logit regression, random forest, SVM, etc. The prediction results were evaluated taking ROC and AUC as criteria.

2016 — 2017 Real Function Theory Textbook Revision *Chengdu, China*
Assistant
Assisted my professor in revising the real function theory textbook, including proof of sufficient and necessary conditions for set measurability, Cantor set and unmeasurable set.

Awards & Honours

2018 — 2019 Academic Scholarship, Southwestern University of Finance and Economics

2016 — 2017 Academic Scholarship, Southwestern University of Finance and Economics

2015 — 2016 Excellent League Member, Southwestern University of Finance and Economics

Technical Skills

Computational statistics, Extreme value theory

Data wrangling and visualization

Expert in R and R Studio

Python, Matlab, WinBUGS, Eviews, SPSS

Reproducible research with R Markdown + LaTeX + HTML

Web development (HTML, CSS, Hugo, blogdown, GitHub, Netlify)