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, UK*
University of Glasgow
Thesis: Spatiotemporal modeling and predicting of average flows

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

Research & Academics

2021 — present **Research on Extreme Values of Streamflow in the U.S.A** *Glasgow, UK*

Summary statistics and kernel smoothing were applied to extract meaningful information from the data, detect patterns, etc. The features of streamflow were presented via hydrologic maps. The marginal models were fitted to identify the trends via stationary and non-stationary techniques and selected based on the AIC and the likelihood ratio was employed to test the significance. Return levels were calculated and plotted and bootstrapping evaluated the uncertainty. For the joint-fitting, estimations of the extremal coefficients based on Euclidean and hydrological distances in various approaches, such as madogram and bivariate Husler-Reiss distribution, were applied to check the asymptotic dependence.

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
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 generalized linear models (GLMs) helped to better characterize how the energy profile of the states. The analytic hierarchy process model was applied to measure the importance among different states through MATLAB.
Prediction of energy profile of each state:
The same variables from the GLMs were inherited to construct the vector auto regression 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, support vector machine, etc. The prediction results were evaluated taking ROC and AUC as criteria.

2016 — 2017 Real Function Theory Textbook Revision *Chengdu, China*
Assistant
Assisted the 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)

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