Shan Zhong

435-327-9155 | zhongs@email.sc.edu | linkedin.com/in/shan-zhong-sc/ | shanlearning.github.io

Education

University of South Carolina — Columbia, SC
Doctor of Philosophy in Statistics, 3.6 — *Aug.2018 – Present*

Columbia University — New York, NY
Master of Science in Actuarial Science, 3.5 — *Jan.2017 – May.2018*

Southern Utah University — Cedar City, UT
Bachelor of Science in Mathematics and Economics, Minor in Finance, 3.3 — *Aug.2012 – Dec.2016*

Publication

Shan Zhong, & David B. Hitchcock. (2021). S&P 500 Stock Price Prediction Using Technical, Fundamental and Text Data. Statistics, Optimization & Information Computing, 9, 769-788

Three other papers in preparation: reinforcement learning stock trading strategy, neural network confidence interval, and functional data analysis direction.

Experience

Teaching and Research Assistant — Aug 2018 – Now
University of South Carolina — *Columbia, SC*

- Teach three sections of STAT 201 Lab, 72 people each. Wrote blogs style statistical learning tutorials.
- Completed four large-scale final projects: Bayesian stochastic clustering of social media friends circle, high-dimensional LASSO regression for medical cost prediction, MCMC story generation, and time series block bootstrap.
- Demo of the four projects: https://github.com/Shanlearning/past-coursework#past-coursework

Actuarial Consultant — Jun 2019 – Sep 2019
Yu Chun Business Consulting — *Shanghai, China*

- Automated web data scraping from 91 life insurance companies for over 20,000 Critical Illness, health, and accident insurance products via python Scrapy.
- Use regular expressions and TF-IDF word frequency language model to extract keywords from documents and construct databases.
- Product valuation in terms of net present value (NPV), construct recommendation system.

School Integrated Project — May 2017 – Aug 2017
Guy Carpenter & Columbia University — *New York, NY*

- Developed Poisson regression models to predict actual claim count, with past 30 years of data. Calculated adjusted loss ratio volatility and correlation between 15 different lines of business, for 1400 companies.
- Drafted weekly research reports to present to chief actuary *Mr.Steve White.*
- Used SQL language to manipulate raw data and construct Access databases.

Math Modeling Intern — Oct 2016 – Dec 2016
Casino Game Maker, Inc. — *Cedar City, UT*

- Evaluated winning strategy for different 52-deck poker games and designed new game variants for use in gaming devices.
- Used excel VBA Monte Carlo decision tree simulations to validate game programs.
- Design algorithm, and calculate the odds ratio according to the weight change of possible outcomes.

Research Assistant — 2015-01 – 2016-05
Southern Utah University — *Cedar City, UT*

- Used three different databases, to build models to assess the family assets of incoming freshmen based on their home addresses filled for over 10,000 students.
- Utilized Excel's vlookup function to input and clean data.
- Grade other students' exams and assignments.

Actuarial Intern Jun 2014 – Aug 2014
New China Life Insurance Co., Ltd. *Shanghai, China*

- Used excel to process about 70,000 rows of premium income data of around 200,000 people, filtered and categorized the data.
- Calculated and analyzed accident insurance claims data from multiple regions.
- Processed hundreds of accident insurance underwriting documents, review and seal.

Personal website and qualification certificate

- Personal website: shanlearning.github.io
- Actuarial Exam: P, FM, IFM, SRM, VEE all Filled

Technical Skills

Python: tensorflow, pytorch, sklearn, pandas, matplotlib
R: ggplot, data.table, various statistical packages
Other: Latex, HPC, SQL query, node.js webpack