Shan Zhong

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Education

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

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

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

Experience

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

- Automated web data scraping from all 91 life insurance companies that sell Critical Illness, health, and accident insurance products in China, via python Scrapy. Scraped over 20,000 products.
- Keywords extraction from insurance policy and health declaration documents, by regular expression and edit distance match, for automated underwriting.
- Product valuation in terms of net present value by age and gender, calculated by different actuarial assumptions.
- Developed a dialogue style insurance recommendation query system based on question-answering-classification.

Research Assistant — May 2017 – Aug 2017
Guy Carpenter — *New York, NY*

- Developed a Poisson regression model 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 card games and tested possible variants of rules, via excel VBA decision tree simulation and conditional probabilities.
- Investigated the game rules and set up additional bonuses for gamblers to balance return and adjust volatility.

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

- Cleaned accident insurance premium data and summarized regional data. Health insurance underwriting.

Projects

University of South Carolina | *Python, R, Latex* — Aug 2018 – Present

- Stock price prediction with stacked LSTM and text news data. Extracted Named Entity as actors and classify into action categories for text news. Generated sentiment scores, to represent positive or negative tone of an article.
- Utilized ensemble voting with traditional statistical methods and CNN to do few shot Microscopy image classification.
- Implemented interest rate ARIMA model with block and residual bootstrap simulation.
- Built a binomial hierarchical model to predict occurrence of smoking related disease and analyze societal economic cost of smoking. Ran the PCA and lasso variable selection models from a list of 2000 variables(features).

Columbia University| *R, Excel* — Jan 2017 – May 2018

- Utilized a Bayesian stochastic membership model to cluster social media friendship network data. Via EM and MCMC.
- Examined the effectiveness of Black Scholes model to predict option price for stock data. Took in consideration of bid-ask spread and changing implied volatility with time of maturity.

Technical Skills and Teaching Experience

Languages and platform: Python, R, Latex, SQL, HTML/CSS, Excel, Anaconda
Libraries: tensorflow, multiprocessing, pandas, numpy, sklearn, datetime, matplotlib, re, scrapy, ggplot, data.table
Teaching Assistant: University of South Carolina, Southern Utah university