Shan Zhong

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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*

PREPRINTS

Shan Zhong, & David B. Hitchcock. (2021). S&P 500 Stock Price Prediction Using Technical, Fundamental and Text Data.(submitted): https://arxiv.org/abs/2108.10826v1

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.

School Integrated Project — May 2017 – Aug 2017
Guy Carpenter — *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 and game rules for different 52-deck card games and designed possible variants of rules and additional bonuses, via excel VBA decision tree simulation and conditional probabilities.

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
- Functional data analysis for novel story data, cluster novels by regulated curves of emotion throughout the story.
- Built binomial hierarchical models 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.
- Stock price prediction for 518 different stocks throughout the 20 year period with ensemble stacking machine learning model. Extracted Named Entity using embedding, and generated sentiment scores using the BERT model.

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.

TECHNICAL SKILLS AND TEACHING EXPERIENCE

Languages and platform: HPC, Python, R, Latex, tensorflow, sklearn, pandas, numpy, matplotlib
Teaching: Teach three sections of STAT 201 Lab, 24 people each. Write blog style statistical learning tutorial.