Shanshan Li

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QUALIFICATIONS

- Over 5 years of research and programming experience in statistical modeling and data mining
- Hands-on experience of large data sets analysis and deep understanding of algorithm
- Excellent in communication; Goal and detail oriented; Self learner and quick starter

SKILLS

Python, C++, R, Unix/Linux, SQL, Shell

EDUCATION

Stony Brook University — **Stony Brook, NY**
Ph.D in Applied Mathematics and Statistics — *2012 - 2017*

Nankai University — **Tianjin, China**
Dual Degree of B.S. in Applied Mathematics and B.S. in Economics — *2008 - 2012*

RESEARCH EXPERIENCE

Stony Brook University — **Stony Brook, NY**
Research Assistant — *September 2012 - June 2017*

- Designed a novel algorithm named Multi-Active-Shooting which used penalized kernel smoother for solving high-dimension-low-sample-size problem, and implemented the algorithm in Python.
- Processed 1-minute data of 233 stocks in SP 500 from year 2002 to 2013. Constructed time-varying network structures by presenting both symmetric and asymmetric approaches: Partial Correlation network and VAR adjacency network. Managed and analyzed more than 10 GB of Data.
- Carried out both theoretical derivation and empirical simulation of four different change-point detection rules. Detected the stochastic structural breaks in high dimensional time series for financial surveillance
- Improved the weighted k-means clustering in both accuracy and computational efficiency by introducing an iterative algorithm to obtain the optimal weights.

Cold Spring Harbor Laboratory — **Cold Spring Harbor, NY**
Research Assistant — *April 2014 - May 2016*

- Implemented Python modules to process and parse millions of genomic sequences. Constructed relational databases using SQL from un-structured files to make it more flexible and faster to explore the information of the variants.
- Developed Bayesian Method to identified the genetic mutations from patients.

Institute of Robotics and Automatic Information System — **Tianjin, China**
Research Assistant — *March 2010 - June 2011*

Built a innovative self-service system "Intelligent Life Insurance" for an insurance company. The system quantifies the factors that influence purchasing, and the features could be used in collecting the feedback of all the potential guests through the decision tree computation.

WORK EXPERIENCE

Mckinley Capital Management LLC — **Stony Brook, NY**
Research Intern — *June 2013 - August 2013*

Won the first prize of HorseRace Portfolio Competition. Possessed the massive historic data of 100 stocks, constructed a better fitted math model (MNTS-ARMA-GARCH), and obtained a well-performing large-scale portfolio

PUBLICATIONS

- S. Zhang, **S. Li** and W. Zhu, "An iterative algorithm for optimal variable weighting in K-means clustering", *Submitted - Communications in Statistics* (2016)
- **S. Li** and H. Xing, "Estimation and detection of network variation in intraday stock market", *Submitted - Journal of Network Theory in Finance* (2017)