

SHUHAN (JENNY) TIAN
(814) 777-8161 ■ st3367@nyu.edu

EDUCATION

NEW YORK UNIVERSITY

New York, NY

The Courant Institute of Mathematical Sciences

MS in Mathematics in Finance (expected – January 2019)

- **Coursework:** stochastic calculus, quantitative portfolio theory (mean-variance optimization), OOP, derivative securities pricing (Black-Scholes model, Greeks), risk management (VAR, back testing, stress testing), time series analysis, big data application (machine learning), continuous time finance

PENNSYLVANIA STATE UNIVERSITY

State College, PA

BS in Mathematics and BS in Economics (Schreyer Honors College), Highest Distinction (2013-2017)

EXPERIENCE

CONNING

Hartford, CT

Quantitative Finance Intern in Risk Solutions Department (June 2018 – Aug 2018)

- Worked with real financial market and simulation data (pulled from ADVISE-risk modeler) to generate interactive reports by implementing Dash (web-based interfaces) in Python
- Programmed an automated dashboard of various statistics and graphical representations of economic variables including Treasuries, Spreads, Swap, Foreign Exchange, etc.
- The Dashboard served as the validation report for Conning's proprietary Economic Scenario Generator

BANK OF CHINA INSURANCE COMPANY

Beijing, China

Actuarial Intern in Actuarial Department (Jul 2016 - Dec 2016)

- Updated the auto policy dataset by classifying and merging relevant data in SAS
- Participated in building Generalized Linear model (implementing Poisson regression and Gamma regression to estimate frequency and severity of claims) to price auto insurance by using SAS
- Refined Generalized Linear model by adjusting existing parameters, such as price of car, age of car, age of policyholder and adding new parameters, such as no claims discount factor, type of car in SAS

PROJECTS

NEW YORK UNIVERSITY

New York, NY

Computing in Finance (Java, Python)

- Implemented K-Means algorithm to get clusters and enhanced algorithm by fixing clustering size
- Valued options by using Monte Carlo simulation and applied different techniques such as antithetic variate, importance sampling to reduce variance and accelerate convergence

Risk and Portfolio Management (Excel, Python)

- Applied Brownian Bridge, regression-based EM, bootstrapping techniques for missing data
- Estimated VAR by using Variance/Covariance, Historical simulation, and Monte Carlo simulation techniques; Analyzed market portfolios by implementing stress testing and back testing methods
- Constructed mean-variance model by using seven Vanguard funds to get minimum variance portfolio and maximum Sharpe ratio portfolio with returns derived by Black-Litterman model

Interest rate and FX models (Python)

- Calibrated SABR model with market quotes of ATM, RR, and BF of FX options to construct implied volatility smile curve
- Bootstrapped IR curve by interpolating the cumulative yield using tension spline techniques with LIBOR swaps as the benchmark instruments

Forecasting Factors with Economic Indicators (Python)

- Collected 170+ economic indicators data from Datastream (Thomson Reuters) database and automated the process of cleaning (including stationarity check), merging these indicators data into one csv file
- Replicated Fama-French factor returns; Performed PCA to test effectiveness of economic indicators
- Utilized various machine learning techniques (Lasso, Ridge, Elastic Net, etc.) to analyze economic indicators' ability of forecasting factor performance

COMPUTER SKILLS/OTHER

Programming Languages & Other: Java, Python, SAS, STATA, R, MATLAB, Power BI, HTML, CSS

Certificates: CFA Level I, FRM Level I, Society of Actuaries exams P, FM, Bloomberg Market Concepts