**Binchi Zhang**

Boston, MA | +1(857)294-8072 | boszbc@bu.edu | www.linkedin.com/in/binchi-zhang-questrom

**EDUCATION**

Boston University, Questrom School of Business (BU) Boston, MA

**M.S. Mathematical Finance** Sep2017 - Jan 2019

* Stochastic Methods: Asset valuation with Stochastic Calculus, Jump diffusion process modeling, Exotic option pricing with analytical solutions, Optimal consumption theory
* Computational methods in Finance: Option pricing with numerical methods, Finite difference, Monte Carlo Simulation methods, Predictive analysis, Machine learning tools, Optimization methods
* Statistics: OLS, Probability theory, Time series modeling, CAPM.
* Programming: Python, C++, and its application in quantitative finance.
* Fixed Income Theory: Term structure & short rate models, Defaultable bond, Swap/swaption pricing

Beijing Institute of Technology (BIT)Beijing, China

**B.A. Public Affair Management/Mechanical Engineering** Sep 2013 – Jun 2017

* Merit award: Meritorious Award in Interdisciplinary Contest in Modeling.
* Coursework: Mathematical Analysis, ODEs, Financial Engineering, Microeconomics, Probability, Linear Algebra

**PROJECTS**

* FX Prediction model: Use Vector Auto regression to analyze lead-lag effect of future and spot market
* American options pricing: Compare results and efficiency between numerical and analytical methods

**WORKING EXPERIENCE**

**Santander Bank N.A** New York, New York

**Quantitative Model Risk Analyst** Apr 2019 – Present

* VaR Model Validation: Challenged methods selection (Add, Multi or DHS) for historical return calculation, developed algorithms to test abnormalities (regime shift, unexpected spikes) in bank’s risk factor series. Developed alternative Pricers and VaR engine for interest rate products by Python QuantLib, tested the bank’s VaR calculation by constructing a synthetic portfolio that match bank’s portfolio sensitivities.
* SOFR Rate Migration: Independently constructed bank’s internal SOFR curve by QuantLib, then benchmarked it with Bloomberg. Conducted research on the new SOFR topic, issued findings regarding SOFR instrument liquidity and low correlation in short tenors between OIS proxy and SOFR when SOFR instruments are not available on market.

**Santander Bank N.A** Boston, MA

**Quantitative Model Risk Intern** Jun 2018 – Dec 2018

* Non-Maturity-Deposit (NMD) pricing model revalidation, added dummy variable to reflect Puerto Rico portfolio hurricane shock, raised recommendation that add lag in customer rate to better capture bank’s rate-adjustment delay compared with market benchmark
* Baseline validation on primary-secondary rate spread model, replicated back testing result, evaluated different model’s performance and modeling approach (variable selection), built own piecewise fit model as original one’s enhancement, sent back model remediation plan thus mitigating model risk
* Revalidation of company’s yield curve bootstrapping model, calibrated yield curve by market swap rate, conduct curve replication for OIS, LIBOR, EUR-USD, MXN-USD, BRL-USD, mastered bootstrapping techniques in situation of curve dependency, used cross-currency-swap as calibration tool to pricing rate products collateralized in different currency

**ADDITIONAL INFORMATION**

**Programming:** Python, R, VBA, C++

**Certificate:** CFA Level 1, FRM level 1

**Interests:** Stock Trading, Traveling, Photography