

SHAOLUN(ALAN) DU, FRM

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EXPERIENCE

Advocate Capital Management

Quantitative Analyst (Feb. 2018 --- Present, intern included)

New York, NY

- Develop and maintain in-house portfolio risk system in python with OOP design focused on yield curve bootstrapping (LIBOR, OIS, CSA, SOFR(ESTR)) and fixed income product pricing. (50%)
- Research historical economic panic periods and conduct scenario analysis and VaR analysis using Monte Carlo simulation based on stressed period market for firmwide derivatives portfolio. (30%)
- Automate daily process and quantitative models using Excel VBA and python xlWings library. (10%)
- Provide clients with hedging suggestions on balance sheet interests rate risk and currency risk and generate monthly company cash flow risk with attribution analysis. (10%)

Shanghai CIFCO Futures Co., Ltd

Risk Analyst Intern (May. 2016 --- Aug. 2016)

Shanghai, China

- Constructed VaR model for derivatives portfolio using Monte Carlo simulation with linear portfolio based on historical multi-assets correlation structure. (70%)
- Augmented further for non-linear products simulation based on delta-gamma-theta method and swaps using Hull-White 1 factor model and historical key rate correlation to yield curve simulation. (Independent)
- Monitored clients' portfolio valuation and margin requirements and reported to manager on daily basis. (30%)

SQI Capital (Asset manager of Shanghai CIFCO Futures)

Quantitative Analyst Intern (May. 2015 --- Aug. 2015)

Shanghai, China

- Developed python web-scraping tools to automatically download market information from China's major commodity exchange website and third-party platform, and stored data in SQL database. (60%)
- Researched China's stock index future narrow range breakout strategy using inter-market correlation between stock index future, CNY and bond futures index and implemented the strategy on TB platform. (40%)

CERTIFICATIONS/AWARDS

- Series 3 licensed (ID: 0526023), Passed CFA level 3 exam (Jun. 2018), designation pending
- Meritorious winner in CoMAP'S Mathematical Contest in Modeling (Mar. 2013)

EDUCATION

NEW YORK UNIVERSITY

New York, NY

The Courant Institute of Mathematical Sciences

MS in Mathematics (Sep. 2016 – May. 2018) GPA:3.8/4.0

PURDUE UNIVERSITY

West Lafayette, IN

MS in Computer Science (Sep. 2014 – Dec. 2015) GPA:3.6/4.0

SHANGHAI UNIVERSITY

Shanghai, China

BS in Mathematics and Applied Mathematics (Sep. 2010 – Jul. 2014) GPA:3.6/4.0

RELEVANT COURSEWORK: Econometrics & Portfolio risk management, Computing in Finance, Stochastic Calculus for Option Pricing, Machine learning and Deep learning, Scientific Computing and Optimization,

PROJECTS

DERIVATIVES PRICING IN PYTHON (QuantLib)

Advocate Capital Management, LLC

- Priced swap, FX and interests rate option of G10 currencies and generated risk metrics includes DV01, KRDs, Greek letters with yield curve bootstrapped from most liquidity market contracts.
- Priced XVA for swap products using Monte Carlo simulation with short rate model calibrated into market volatility surface.

RISK AND PORTFOLIO MANAGEMENT IN PYTHON

New York University, NY

- Implemented portfolio construction on industrial historical data using Mean-Variance optimization.
- Combined momentum strategy with Black-Litterman model to generate estimated expected returns and PCA to estimate COV matrix.

COMPUTER SKILLS/OTHER

- Python (SCIPY, NUMPY, PANDAS, QUANTLIB) with OOP design, over four years and 50,000 lines
- EXCEL (Intense using in front-end development and automation with VBA & Python programming)
- SQL, Bloomberg, CS-Locus and Barclay-Live. (Working knowledge of daily using)