

SUNNY ZHAOYANG JIANG

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EDUCATION

Illinois Institute of Technology, Chicago IL, US

Aug 2011-Dec 2013

Master of Mathematical Finance

China Agricultural University, Beijing, China

Sep 2007-Jul 2011

Bachelor of Science in Engineering Mechanics

RELATED COURSE WORK AND SKILLS

- Stochastic Processes, Mathematical Finance I & II, Monte Carlo methods in Finance, Statistical Learning
- Futures OPT and OTC Derv, Theory and Practice of Fixed Income Modeling, Bayesian Econometrics
- **Technical skills including MATLAB, C++, R, VBA, Python, SQL and FRM Level I**

RESEARCH EXPERIENCE

Credit risk modeling with MATLAB

Oct 2013

- Used the VaR measure to calculate the risk of a portfolio that include more than 1,000 bonds from 12 industries and maturities in 1 to 4 years.
- Used SQL to get and organize raw data. Use nonlinear model to create a classifier that can be used to calibrating the rating system. Ran a back test to make sure it's a good fit, and then ran the rating for the new data.
- Resampled the information at 1-year interval for all the bonds and compute the transition probabilities matrix.
- Ran Monte Carlo simulation to get new bond ratings and priced the portfolio value. Then calculated the VaR.

Use Monte Carlo simulations to price options

May 2013

- Used pseudorandom number generator to generate random variables.
- Priced the option at each time interval and repeated until reaching the end of the analysis horizon.
- Repeated last step 10,000 times to generate large number of different paths for the underlying.
- Used important sampling to increase the efficiency of the calculation.

Computational Finance course

Sep 2012

- Used Python to build a model using Black-Scholes Model to compute the option value. Used SQL to get data from the outer document. Then used secant method to compute the implied volatility using Black-Scholes formula.
- Used the Vasicek Model to compute the cash flow for option. Also generated the short rate paths using strong solution and Euler method.
- Built classes to calculate the price of *Risk Free Zero Coupon Bond*, *Credit Default Swap*, and *Vanilla Option*.
- Then calculated Counterparty value and their tail risks. Used important sampling to improve the efficiency.

WORK EXPERIENCE

ING U.S. Chicago, IL Financial Advisor Assistant

Dec 2013 – now

- Meets with clients to assess their financial needs. Develops a customized financial plan to address clients' outlined goals, helping them to track their progress over time.
- Maintains strong relationships with clients. Provides ongoing consultation and support.
- Gets familiar with extensive financial products, including mutual funds, stocks, CDs, IRAs, insurance, etc.

Center for Economic Progress Chicago, IL Tax preparer

Nov 2011-Apr 2012

- Worked one-on-one with clients, prepared federal and state income tax returns and provided basic counseling on tax laws and credits for them.
- Helped with administrative activities, including client reception, copying and filing documents.

Industrial and Commercial Bank of China Ltd. China Client Manager Assistant

Jun 2010-Sep 2010

- Introduced financial products, open-ended funds and insurance products to around 30 clients a day. Carefully studied the issue plans of products to find out where are the risks and opportunities.
- Used the *Capital Asset Pricing Model* to calculate the expect return. Designed optimal portfolios for different clients to help them get the maximum benefit with an acceptable level of risk exposure.
- Understood the insurance industry in China. Wrote a report about the anticipate problems.