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| **Xiaoyun (Mark) Hu** | | | 485 Marin Blvd, NJ |
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| **EDUCATION** | | |  |
| **University of California, Berkeley** | | | Jan.2018-Present |
| Master of Information and Data Science | | | GPA: 3.9/4.0 |
| **University of Illinois at Urbana-Champaign (UIUC)** | | | Dec. 2015 |
| Master of Science in Financial Engineering | | | GPA: 3.61/4.0 |
| **University of Nottingham** | | | Jun.2014 |
| Bachelor of Arts in International Economics | | | GPA: 4.0 First Class Honors |
| **CORE COMPETENCIES** | | |  |
| * **Derivative Pricing Model** * **Energy Commodity Domain Knowledge** * **Risk Management/ Hedging Strategy** | | * **Strong Statistical Modelling** * **Advanced Data Analytics & Applied Machine Learning** * **Programming in Python/R, PL/SQL, C#, VBA** | |
| **PROFESSIONAL EXPERIENCE** | | |  |
| **J.P. Morgan** (New York) | Derivative Valuation Control Associate | | Jan.2018-Present |
| Valuation Model Development:   * Pricing engine development for energy exotics (swaption, quanto, var swap, barrier option) * Commodity price n-factor model calibrated to market data and exotics parameters * Enhanced index hedging model by introducing regime switch and AR model for error term * Improved exotics parameters (volatility, vol ratio, correlation, proxy scalar) calibration in terms of error and stability by approximating mean reversion engine with Neural Nets * Developed market undirected relationship graph to facilitate the choice of charge proxy leveraging partial correlation measure and graphical lasso to solve for a sparse system * Oversee global oil reserve and work closely with trading desk to analyze OTC deals in terms of risk exposure, reserve impact, hedging efficiency * Designed deal leveling logic (Fair Value Hierarchy) including methods such as parameter observability, sensitivity testing | | | |
| **CME Group** (Chicago) | Pricing & Valuation Associate | | Oct.2016-Dec.2017 |
|  | Quant Risk Analyst | | Dec.2015-Sep.2016 |
| Settlement Engine Development:   * Devised automated processes to cleanse historic data of energy derivatives by designing entity-relationship model and implementing data mapping using store procedure and trigger in Oracle * Commodity forward curve building methodology with seasonal decomposition * Developed inter/extrapolation and smoothing algorithm for forward and volatility surface * Prototyped option settlement GUI tool in Python by framing a multivariate constrained optimization to reflect intra-day bid/ask quotes and trading strategies from client   Risk Modeling:   * Automated product daily risk reporting tool utilizing VBA and C# Excel add-in functionality * Research statistical time series modeling (ARIMA, GARCH) for volatility prediction and VaR simulation * Research Principal Component Analysis (PCA) application on decomposition of time series, covariance matrix for portfolio margin | | | |
| **Wanjia Asset Management** (Shanghai) | Credit Risk Intern | | Jun.2013-Aug.2013 |
| * Conducted a report in Peer to Peer lending market and its impact on banking system * Designed and proposed an automated loan processing system architecture by modeling default risk using logit model | | | |
| **RESEARCH AND PORJECTS** | | |  |
| **Retirement Income Optimizer for Ash Brokerage (Annuity dealer)** | | |  |
| * Modern portfolio theory (Black-Litterman model) for asset allocation * Monte Carlo simulation with Cholesky decomposition for portfolio value with tax calculation * Apply stochastic and robust programming to optimize asset allocation for equity basket and annuity basket | | | |
| **UBS Callable Fixed-to-Floating notes Valuation** | | |  |
| * Build and calibrate Hull-White/Libor Market Model to the current market data * Monte Carlo simulation with variance reduction technique to approximate note value | | | |
| **Asset Pricing Anomaly in Segmented Markets: A Liquidity Explanation** | | |  |
| Independent Research, Advisor: Prof. Weimin Liu, Finance Department, Nottingham Business School   * Conduct deep investigation into the sustained price difference between dual listed shares on Shanghai and HK exchange * Examine three possible reasons: market micro-structure, liquidity risk and risk differential hypothesis applying time series analysis and statistical inference | | | |
| **HONORS & AWARDS** | | |  |
| PRIMIA Risk Management Challenge Regional Finalists (Top 5 in Chicago Area) | | | Jan.2015 |
| Honorable Mention in Mathematical Contest in Modeling | | | Mar.2013 |
| **Interests**: Tennis, Squash, Travelling and Poker | | | |