**Profile**

Over 7 years’ risk experience and solid technical background with excellent record in managing and delivering projects. I have experience using a wide range of different technologies, tools and working to various methodologies. In addition, I have experience developing full systems, and recognize the need for stability, speed and client experience throughout.

In my free time, I am perpetually experimenting with and investigating different technologies. Current private projects/learning objectives include Jupyter dashboard, docker, React and Java. I seek to challenge myself constantly and always improve upon my coding abilities.

|  |  |
| --- | --- |
| Project management | Over 5 years’ experience managing / delivering projects |
| Analytics | Quantitative, fundamental, technical, financial |
| Model-building | End-to-end experience: designing, implementing and testing models |
| Programming | Python, Excel-VBA, QlikView, SQL, VBScript, Javascript, HTML, CSS |
| Markets | Fixed Income, natural gas, power, coal, oil and LNG |

**Education / Qualifications**

2007-2010 BSc(Hons) First, Investment and Financial Risk Management, Cass Business School

2010-2011 MSc Mathematical Trading and Finance, Cass Business School

**Employment**

**May’17 to Present: Quant Developer: HSBC GRA**

Responsible for creating/implanting next generate risk analytics development platform

* Overview
* Database (SQL & Mongo) Write Optimization & Performance Tuning (asyncio and multiprocessing)
* Database Web Service API (asyncio)
* Jupyter Dashboard On-boarding and widget bank
* Celery based grid computings

**Sep’12 to Apr’17: Risk Systems Developer/Architect: Noble Group**

Responsible for created/integrated risk platforms across all businesses within the company

* Overview
* Prototyped PCA based risk engine
* Designed and implemented internal risk control & reporting infrastructure/applications
* Integrated risk tools with FO (adhoc risk run, hedging tool) and MO (position and pnl reporting)
* Process automation and improvements (automated risk calculation process, internal risk manager communication tools, structure deal capture system, etc.)
* Tools/Libraries
* Worked closely with core Java team to develop internal web APIs
* Developed a multi-threaded data query tool in Python via multiprocessing and generator with Thread and Queue. That could be used to retrieve time series data from MorningStar web service. Combined with the custom built query optimizer, it provided huge performance gains by reducing the number of server calls
* Developed SQLite/MSSQL tools for database manipulation. The use of generator enhanced memory usage and is absolutely crucial when querying large database
* Developed web UI via AngularJS-meteor framework for reference data management (similar application has also been implemented via PyQt4), task scheduler that is event dependent and provides users and developers a tidy way to schedule their python jobs, structural deal dashboard which allows business to store their deal related files and conversations, and market risk commentary which provides an internal communication channels between region risk managers and senior management. Handsontable, Bootstrap, Angular Material, JQuery, HTML5 and CSS are the main third party libraries involved
* Implemented internal risk methodology via numpy, pandas, matplotlib, scikit learn and etc. It not only removed the license restriction from the original R implementation, but also improved overall performance in terms of speed and result consistency. I am building out web UI for Noble market risk system. It aims to replace the external risk vendor.
* Developed core libraries for automating position and price load into Lacima (external risk vendor)
* Developed internal utility for common tasks, e.g., SMTP email, country/business holiday calendar, HTML builder, cmd to remove server, and etc.
* Developed libraries for querying national grid. This has become one of the core engine used by internal research team
* Created various VBScript tools via ADODB, SWbemLocator.ConnectServer and etc. to improve user experiences with QlikView
* Created VBA functions for calculating delta normal, PCA-based and liquidity-adjusted VaRs with seasonal adjustment
* Project Management
* Liaised with risk manager, traders and trade system specialists for project initiation
* Created functional project specifications and user/developer guides
* Designed the prototype model and worked collaboratively with the quantitative analysis team to develop the full model to include price simulation and risk modelling
* Built libraries/tools for data manipulation, web services and etc. Those are critical building blocks for implementing the internal risk platform
* Risk Reporting Platforms (Python, QlikView, SQL, and VBScript)
* Lacima Price and Position Automation
* Position and PnL attribution reports
* Market price dashboard e.g., covariance matrix, spread and historical analysis
* Risk limit dashboard e.g., risk capital allocation together with trade positions
* User interactions including emailing, ad-hoc risk calculations, dive-into-data and what-if analysis
* Internal Risk Engine (Python, QlikView, Excel-VBA and JavaScript)
* Reference data management
* Schedule/Adhoc Risk Calculation
* Lacima position & price automation
* Front Office Analytics Tools (Python, QlikView, Excel-VBA and SQL)
* Position manager that provides direct feeds from Aligne (Trading system)
* Coal fundamental mapper using Markov switching model to understand global supply and demand trends of coal physical market
* Middle Office Reporting Tools (Python, Excel-VBA and SQL)
* Middle office risk position and PnL reporting
* Data querying and validations

**July ‘11 to Sep’12: Risk Analyst: Bank of New York**

Responsible for the risk reporting of Goldman Sachs fixed income portfolios

* Analysed and evaluated fundamental portfolio characteristic, style and risk
* Helped clients understand the portfolio’s sensitivity to shifts in market conditions, through the use of analytics e.g. beta, (effective) duration and (effective) convexity
* Calculated and compared the client portfolio return to a benchmark
* Identified the source of the client portfolio return when compared to a benchmark
* Created Risk-Tracking System, Reconciliation Tool and P&L Reporting System (Excel-VBA)
* Generated daily risk/attribution report by various risk system (Wilshire, Investor Analytics, RiskMetrics)
* Worked with RiskMetrics for model calibrations, curve interpolation/approximation when necessary

**References**

Available on request