VISHNU ELAMATHI
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Qualifications Summary

- Strong analytical and quantitative skills who is well-versed in handling large amounts of data using multiple programs to analyze survey data, budget reports, cost, and pricing
- Specializing in financial product analysis, risk analysis, financial forecasting, reporting and capital stress testing
- Confident conducting regression modeling with proficiency in building time series, linear regression, multivariable regression and logistic regression in Excel and R
- Analyzing financial statements, data mining and quantitative analysis

Education

Masters of Science, Financial Risk Engineering, New York University, NYC, December 2015, 3.70/4.0
Bachelor of Engineering – Electrical and Electronics Engineering, Anna University, India, April 2008, 3.72/4.0

Skills:

Platform: Linux/Unix

Technologies	Libraries	Tools	Methods
Python, PL/SQL, Shell Scripting, R, MATLAB, XML/JSON, VBA, MS Access, Perl, MySQL, SQL Server, NoSQL, MATLAB, Mathematica, Java	Numpy, Scipy, Pandas, NLTK, Scikit-Learn, QzTable(Quartz)	Git, Eclipse, Pycharm, Vi, Emacs, JIRA, Toad, Excel, Bloomberg	Agile Methodologies-Scrum, Object Oriented Programming.

Professional Experience

Bank of America Merrill Lynch, Jersey City, NJ **June 2016 –Present**
Quantitative Developer:

Technologies: Python, Oracle, SQL Server, Sandra (Graph based database)
Horus Integration Project:

- Programmed in **Scipy/Numpy/Pandas/Quartz** (custom package) stack to build custom data pipeline for calculation engine.
- Programmed Job dependency in python and scheduling to effectively process data based on their availability from different sources.
- Collaborated with Business in building analytics and visualization (**Seaborn /Grafana**) tools to effectively monitor data.
- Collaborated and programmed a custom data pipeline for the Greeks calculation engine.
- Customized Data extraction and wrangling process for python APIs for calculating Market Sensitivities.
- Developed key data quality testing strategies and Logging process to effectively monitor data quality for the Market Sensitives.
- Modified legacy SQL stored procedures to facilitate data loading for the new calculation engine developed in python.
- Took ownership in integrating one of the systems to the newly created calculation engine.
- Participated in daily scrum calls with business stakeholders to prioritize work as well and track progress.
- Coded around unit test cases to comply with Test Driven Development while maintaining test coverage.

Single Name CDS Margining System:

- Programmed in **Scipy/Numpy/Pandas/Quartz** stack in building custom calculation engines for margining process.

- Coordinated with Risk Officers and Business Owners on effectively transitioning from ICE margining to Internal Margining System.
- Programmed and modified **RESTful** APIs to facilitate data sharing between legacy (JAVA)/python/Excel calculation engine.
- Coded **RESTful** APIs to effectively track and log different calculation engine and store data in Sandra (NoSQL) database.
- Programmed Customized Time series for every CDS/CDX product from Markit feed for four years timeline.
- Coded Calibration APIs in Scipy/Numpy/Pandas/Quartz stack to calculate market sensitivities for Credit Products.
- Coordinated with Quants/Risk Managers to build calibration engine for sensitivities of Credit Products using Markit Spread Curves.
- Coded around unit test cases to comply with Test Driven Development while maintaining test coverage.

Openlink Financial, New York, NY **September 2015 – December 2015**

Intern, Risk and Quantitative Service

Technologies: Python, SQL, Java, UNIX, Shell scripting

- Coded Python APIs to build customized XML from feed files/CSV to automate their data loading process in creating a time series to build Volatility Surface.
- Designed a customized data pipeline to facilitate their dynamic reporting process which was manually done.
- Programmed APIs in Numpy/Pandas/Scipy stack to build Time Series of FX/Commodities from third party vendors (SuperD, Bloomberg, Reuters)
- Evaluated markets returns time series data of various FOREX markets for evaluating the Profit and Loss (P&L) of various client portfolios and estimate the expected P&L.
- Modified Value at Risk (VaR), Mark-to-Market (MTM) and Potential Future Exposure (PFE) reports by constructing Monte Carlo Simulations for forward rates using LIBOR market model and using them to evaluate XVA price for the instruments in various instruments in different portfolios in python.

Financial Conduct Authority (FCA), London, UK **November 2010 – November 2013**

Senior Analyst/Consultant

Technologies Used: Python, SQL, PL/SQL, Shell scripting, Oracle

- Programmed a customized bot to track sentiment analysis on select list of web portals for their impact on Traded Equity.
- Built Primitive models for three Volker's metrics Customer Facing Trading Ratio (CFTR), Pay-off-To-Spread Ratio and Inventory Ageing in Python and helped in evaluating the efficacy of the model used.
- Built Customized PL/SQL packages to improve performance of "Banking Supervision Database" for evaluating Capital requirement for Capital Requirement Directive (CRD III) project for financial organizations under FCA's regulatory supervision, and helped in migration of the system from FCA to Prudential Regulatory Authority (PRA) which is operating under Bank of England's (BoE) supervision.

Hartford Life Insurance, Chennai, India **July 2008 – November 2010**

Programmer Analyst/Consultant

Technologies Used: PL/SQL, SQL, Perl scripting, Oracle9i, 10g, Oracle Forms 6i

- Built custom modules in Perl, C++ and PL/SQL to implement various Actuarial models for pricing and evaluating risk for various scenarios applicable for Hartford Life insurance.

ACADEMIC PROJECTS

- Comparative Analysis of Pricing Exotic Options using Monte Carlo and Finite Difference (FDM) Methods in Python
- Computing Survival Probability and Default Probability from Credit Default Swap (CDS) Curves with Python modules
- Dynamic Modeling and Pricing Pass through Mortgage Backed Securities (MBS) using Python
- Modeling Counterparty Credit Risk and Computing XVA (CVA, DVA, FVA, MVA, KVA) using Monte Carlo Simulations

CERTIFICATION

Oracle Certified Professional (PL/SQL) 10g

TRAINING

Certificate of Quantitative Finance, Fitch Learning, New York, NY, July 2015;
Advanced Volatility Modeling – Stochastic and Jump Diffusion Modeling; Advanced Portfolio Management – Dynamic Portfolio Optimization using Stochastic Control & Fractional Kelly Strategies

Advanced Risk and Portfolio Management Boot Camp,
Professor Attilio Meucci, SYMMYS, New York, NY, July 2015;
Black-Letterman Portfolio Construction; Copula Option Pooling Approach to Portfolio Construction