UMESH KUMAR

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Executive Summary:

- Worked on various big data initiatives using **structured and unstructured data** in Citibank/Standard Chartered Bank/Trading firm/Social Science
- The areas ranging from customer behavioral modeling to designing analytical dashboard using **Tableau** and **Qlikview** for the retail, wealth management, corporate and investment banking
- Well versed with Machine Learning frameworks coupled with tools like **Python (libraries: scitkitlearn, pandas, numpy, seaborn, matplotlib, keras etc.)** and R **(packages ggplot, nnet, dplyr, sqldf, data.table, plotly etc.)** and big data tools like **Hive**, NoSQL (VelocityDB) and **Spark**.
- Interacted with business and quickly translated into data models needed for quick prototyping using advanced algorithms
- Well versed with complex financial products like options, futures, forwards, structured notes to name a few and interacted with CxO to present the complex deep learning/machine learning models.

EDUCATION

Aug'13-July'14 | **NUS School of Computing** | **Singapore**

Master of Sciences in Analytics

- Coursework – Machine Learning, Big data, Fixed Income and Derivatives, Economics, Advanced Statistics etc.

Jul'10-Mar '12 | **INDIAN INSTITUTE OF FOREIGN TRADE** | **Delhi, India**

Master of Business Administration

- Ranked amongst top 10% amongst the class strength of 240.

Jul'05-May '08 | **SHRI RAM COLLEGE OF COMMERCE** | **Delhi, India**

Bachelor of Commerce (Minor in Computing)

- First Class with Distinction, Top 20% of Class.

EXPERIENCE

Apr'19 – Aug'19 | **Data Scientist - Self-Employed** | **Abu Dhabi**

- Worked with Ministry of Education on Analyzing the Education Platform performance using K means and DID method for **AED 30mn** investment
- Built Predictive Analytics for Schools Planning Division for New schools (costs about **AED 200 mn** each new school) based on Supply and demand using XG boost model and Migration data

Nov'17 – Apr'19 | **East Spring Investment** | **Singapore**

Senior Data Scientist – Front office

- Helping Portfolio Manager for reconciliation between Cash management and CRTS
- Liaison with trading desk for various data request for TCA analysis
- Involved in data transition from Charles river system to Blackrock system
- Built a dashboard in Python for the trading desk and PM for system readiness

Technology Used — *Python (numpy, pandas, scikit-learn, matplotlib), R, Blue Prism, JIRA,Git*

ML Algo used — *K-Means,Random Forest,SVM,Neural Net*

Achievement

- Awarded 3000 SGD by COO for doing transformation project for migration from CRTS to Blackrock Alladin and building real time dashboard

Apr'16-Nov'17 | **Standard Chartered Bank** | **Singapore**

Data Scientist - Group Decision Analytics

- Worked with sales trading team to generate predictive model for target customers by asset classes using petabyte of transaction data which is used by sales trader on a daily basis for customer targeting using **Spark**
- Developed Deep Learning model (used **keras** in Python) for image recognition for processing trade finance documentation for close to 12K transactions every day for flagging sanction countries and using news analytics to identify fraudulent activities
- Developed Unsupervised Model (**K Means**) for detecting outliers from scratch from a research paper and implemented it successfully for data quality check with 99% accuracy
- Designed Data model for the Group Risk reporting for banking books by working

across various stakeholders and worked with IT for setting up Hadoop infrastructure

- Used **NLTK python** for analytics text from Google news using API and applied algorithms for feature extraction on basis of importance and exposure
- Implemented Group risk reporting for wholesale & SME books using VBA, SAS, R, Access and **Presto**
- Helped in visualization of views for the risk reports in **Tableau using Presto queries**
- Designed the tool for pulling reports and putting it in Presto format for Server
- Presented the Tableau Dashboard to group CIO for implementation across other departments and regulatory reporting
- Used Robotics Process Automation for combining the various data sources and feeding into the Hadoop infrastructure with no human intervention and generates audit compliance report for trail

Technology Used — *Python (numpy, pandas, scikit-learn, matplotlib), R, Spark, Tableau, Blue Prism, JIRA,Git,VBA*

ML Algo used — *K-Means,Random Forest,SVM,Seq2Seq,SVM,Logistic Regression*

Sep'14-Apr'16 **CITIBANK N.A.** **Singapore**

Data Scientist - Decision Management - Advanced Analytics

- Designed model for delinquency of Credit card customers for keeping a check on behavioral traits using structured and unstructured(transaction) data of customers using Spark and developed Machine Learning algorithm with **ensemble model**
- Presenting the Model to Various C level executives for showcasing the use cases and getting funding approval for the projects
- Working across various stakeholders for understanding the business problems and identifying the various data sources
- Designed Dashboard using Qlik View, Python and SQL to analyse P&L of trading activities in APAC region for treasury and markets using 30 gb of daily trading data points including unstructured news data
- Velocity db as NoSQL as it has capability for scrapping the json formats and API with **Python for news analytics** and developed **machine learning algorithm** for predicting P&L using P&L data and news
- Analyzed the data for Consumer Risk Management for real time portfolio analytics to analyze, Delinquency and portfolio concentration
- Developed Stress test Model for various asset classes i.e. MF, Bonds, Structured products, equities and deposits in SAS and developed the **Machine learning model for predicting falls in exposure** using **text analytics** and combining with exposure

Technology Used — *Python (numpy, pandas, scikit-learn, matplotlib), R, SQL, SAS, Qlikview, Blue Prism, JIRA,Git,VBA*

ML Algo used — *K-Means,Random Forest,SVM,SVM,Logistic Regression*

Sep'12-Jul'13 **LARES SOFTECH PVT. LTD. (Macro Hedge Fund)** **Singapore & Delhi, India**

Associate, Quantitative Trading

- Execution of trades across the asset classes i.e. FX, Equity derivatives and Commodities
- Designing algorithms and back testing for strategies for the Indian markets in R
- Independently designed the structure as well as documentation for setting up one of the first three hedge funds in India
- Designed a new statistical arbitrage strategy based on Copulas which are used in Risk for assessing the risk on related instruments

Mar '12-Aug'12 **PROPHECIS CONSULTING AND ANALYTICS** **Delhi, India**

Quant Trader (6 month - Contract)

- Quantitative Analysis of the market and looking for inefficiencies
- Statistically Analysing the returns and looking for any opportunities

Delhi, India

Sep ‘08-Jun ‘10 **KPMG INDIA PVT. LTD.**
Tax Analytics

- Worked as BA on designing Taxation solution for KPMG expatriate tax department
- Designed VBA for explaining the Software developers for the taxation concepts
- Providing advice to clients on taxation issues including Social Security Contribution, FRRO, NOC etc.

ACHIEVEMENTS

Nov ‘12

- Independently written a research paper which was published in Indian Journal of Finance
- The research paper analysed the effect of seasonality on the National Stock Exchange Nifty index due to the Diwali Festival in India.
- Invited to present my research papers titled “Diwali Anomaly : A new seasonality discovered"” at two **International annual research conference in collaboration with Yale University and Boston University** where speakers from business Schools across the world like Kellogg, Stanford, Yale presented

TECHNICAL

- R, SAS, Python, Spark, Blueprism, Presto, C++,SQL, QlikView, Control-M, MS Excel

ADDITIONAL

Dec’13-Jan’14

- Cleared CFA Level 1 with above 70% in all areas.