Aakash Dhondiyal

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PROFILE SUMMARY

- 5+ years of professional work experience in Data Sciences and Machine Learning across various industry domains, including E-Commerce, Strategic Marketing, Asset/security Analysis, Banking and Global risk compliance
- Result-oriented analytics professional with the ability to understand business requirements, design a detailed analytical framework, build and implement analytical models, and interpret statistical results into actionable recommendations
- Working experience in diversified technologies including Python, Linux, Trifacta, Tableau BI, Excel, SQL, R/R-Server, SAS, Neo4J

AREAS OF EXPERTISE

- Quantitative Statistical Methodology
- Time Series Analysis and Forecasting
- Strategic Marketing/ web analytics
- Viz. Data Representation
- Recommendation Systems
- Regulation Testing & Risk
- Customer Analytics
- Probabilistic Models
- AI & Machine Learning

SKILL SET

- Analytics & ETL: **Python, R, SAS, Trifacta**
- Database: **Vertica , SQL**, **Oracle, Teradata**
- Business Intelligence: **Tableau, Java Scripting**
- Languages/Others: **Excel/VB**, **Omniture, Google Analytics, Capital IQ, Factiva, Java**

PROFESSIONAL EXPERIENCE

BA Continuum India Pvt. Ltd., Gurgaon, India
Assistant Manager Data Science, Global Business Services /Global Risk & Compliance ***Aug.2017 to Present***

Business problem: Law Rule & Regulation Testing
CTB – OPEX using Automation and Machine learning

- **Deliver controlled & secured environment:**
  - Global banks follow many federal law, rules and regulations, thus takes a lot of hard work to cultivate a culture of leveraging FOSS applications (in controlled way) to **increase efficiency and reducing cost** by providing operational excellence through automation and machine learning
- **Opportunity generation and ideations:**
  - Worked on different **process reviews and scoped out** multiple automation and machine learning opportunities.
  - Reviewed 3 core process with over 120+ Automation and Machine learning opportunities pertaining to 28,000 Hours of time saving for Business
- **Business strategy & delivery:**
  - Played important role in **E2E business delivery and help in major tool procurement aligned to BANK OPEX Vision**.
  - Created/Developed **automation process for entire Global Business Services** with 10 POCs on process automation using FOSS applications, ML techniques and Data wrangling tool procured. This has been leveraged by entire team in automated 100+ testing process covering 150+ federal Regulations till Jan'2019

RTB – Major deliveries and performance matrices

- **80% of data is unstructured and stored in disparate source:**
  - Delivered Optical Character Recognition (OCR) algorithm for high quality scanned images data extraction
  - Delivered multiple data extraction algorithms for PDFs, Emails, Images, Notepad and others
  - Delivered **Topic modelling tool** that uses naïve based clustering in the beginning and then provide the mix of correlated topic model and LDA.
  - Delivered data encryption and decryption algorithm for Data Privacy for governance and audit
  - Delivered check box identification using **SVM and Neural Network (multi-layer perceptron)**
- **Core statistical consulting & TAAS**
  - Delivered defect percentages forecasting at financial centre level using **intermittent** defect analysis.
  - Delivered paid visits impact of organic visits using **Bayesian elastic net**

TTB – Process restructuring and enhancement

- **Automated Loan assessment system using unstructured data:**
  - **Home loan credit testing usually involves underwriters work, where in associate manually examine all the documents collected from borrower and co-borrower during the entire life cycle of loan assessment.** Automation comprises of multiple classification algorithms for document category identifications, deep learning to determine the right document and data extraction to automatically process with loan assessment**. E2E Process automation leads to ~4 million hours of time saving per year (92 FTE reductions)**

Keywords & Methodologies Used – Innovation, Strategy and Decision**,** sorting algorithms, classification, rule base classification, parsers, image base classification, bitwise data handling, Topic modelling, Federal Law Rule & Regulations, Home loans, credit testing, testing, sampling methodologies, population instability, transition probabilities, 2 stage stochastic process, data envelopment analysis (improvement stochastic frontier analysis), similarities, NLP (natural language processing), data wrangling, process automation, process enhancements, cost optimisation, OCR (optical character recognition), SVM (support vector machine), Template matching, Correlated topic model, LDA (latent dirichlet allocation), risk mitigation, RTB (Running the Business) , TTB (Transforming the Business) , CTB (Change the Business), Crostan,

Snapdeal, Gurgaon, India
Business Analyst, Data Science ***Aug.2015 to Aug.2017***

Business problem: Next best offer to our customer
TTB - Recommendation System

- Developed a recommendation model using Apriori algorithm, which is then modified with text mining using basic NLP methodology for a class of products and improved with logical item set mining (LISM) for cases of long tail distribution of product sold.
- Further transformed into item-item recommendation for high brand and price sensitive products, imputing transition probabilities of product categories.
- Further transformed into customer-item recommendation, imputing in customers attributes like Gender, Premiumness, and Family orientation.
- Improved using altering least square machine factorization by fixing user and product features using altering i.e for users on product and for product on user respectively. Alternate approaches such as slopeOne etc. was suggested for sparse matrix corrections

CTB - Projects & Responsibilities

- **Customer Retention Strategies** - Improved customer retention by 8% over 3 months.
- **Algorithmic Development/attributes creations/ latent variable understanding/creation** - To simplify customers profiling at globally (8+ company level metrics/ model creation for customer profiling)
- **Pain points identification/management** - To reduce burn, pricing correction and improve/reduce logistics costs.
- **SCM** – Identified and corrected the estimates of goods purchase, biased due to flow of demand variation all throughout the order to inventory model.
- **C-Suite Customer Metrics/ Dashboards** - Proposed/created the cross-selling/up-selling, retention cohorts, customer journey (LTV), conversion, promotion **ROI metrics & Dashboard**.
- **Growth Hacking** – Studied various seasonal dimensions and designed multiple experiments for targeted approach. Mostly A/B Testing using designed experiment basis moment estimations. Few of them showed over 200% of improvement (~65 lacs of sale difference a day)
- **Influencing Data Driven Methodologies** - Created Company level VarCov Matrix used by data sciences team as a pre-requisite for their modelling need. Designed/ constructed multiple models to understand cart dropout rate/ uninstallation rate. Improving estimation of inventory using time series, duplicate product tagging using product name similarity (final approach is an hybrid model uses CNN for image similarity at grey scale images and LV distance)

Methodologies Used – Apriori, Logical Item set mining, collaborative filtering, factorization machine model, time sensitive recommendation from recurrent user activities, entropy calculation, Bayesian learning, dirichlet process, k-mean clustering, Partial dependency (viz. marginal effect), random forest, decision tree, One slope, Fast Maximum Margin in machine Factorization. Levenshtein Distance, convolutional neural network.

HCL Technologies, Noida, India
Senior Executive, Corporate Strategic Marketing ***Jun.2014 to Aug.2015***

Business problem: Differentiated offering to customers
TTB - Delta Value Proposition Model

- In today commoditized industry, there's a need of feedback engine which will enable us to stay at par or one step ahead of market. To achieve this we had come across a concept of Delta Value proposition. This framework enables us to calculate the change in value both actual and influential. Based on which we study the risk associated with the current offering/ propositions on a day level.

- To achieve this we are building an Ecosystem Data Platform which is an OLAP cube. This platform fetch information about M&A, financials, news, social activities, offerings and more which then used to create one index specific to micro-vertical.

Business problem: Increase ADM Win efficiency

Deal Win Model for ADM

- The pattern of current pool is empirically investigated with a view to formulating a model for the bid to win phenomenon.
- Quantified linkage between the contract's/ service line prior activity and the risk of early closing. Based on this prior these activity and few other parameters a variable called DWL (Deal Win likelihood) was created. It was seen that an deal whose attribute is compatible to model having RLL Prb=1 has greater chances of winning than the deal having DWL Prb=0.
- Factor in multiple deal variables such as service line, length, ACV, company market cap, agreement model, etc.
- The deals turn-up rate increased significantly for "statistically designed experimental groups", having fixed agreement model and smaller deviation from mean of ACV with those issued to DWL Prb = 1, using model.

Methodologies Used – Linear regression, logistic regression, time series analysis, natural language processing, openNLP, sentiment analysis, decision tree, survival analysis, time series analysis, covariance modelling using wishart process (nonparametic Bayesian with Gaussian process), technical analysis, beta distribution.

Other Projects & Responsibilities:

- **ROI of Strategic Marketing based on Digital/ Funnel –** Created single point of truth for all investments including Go to Market strategies for different markets/services/channels/aspirational accounts.
  Proposed/processed/constructed/delivered - Digital Dashboard | Deal Mix Report | Rebid Deal Analysis for go to market.
  Products build/improved – RTB/CTB moments | Funnel movement | Digital web performance | ROI metric for content, channel | Brand Indexing
- **Digital Data Analysis –** For website architecture modification and content targeting
- **Revenue forecasting –** To understand company performance and budget allocation.
- Rich experience of fulfilling end to end consulting /analytics requirement for corporate marketing strategies.
- **Many ideation/ ambitious projects** including social media analytics, text analytics, web content scoring, Attribution Modeling, Delta VPM.

EDUCATION

Indian Statistical Institute (ISI), Assam/Kolkata **2011 – 2012**
Post Graduate Diploma in Statistical Methods and Application

University of Delhi, Delhi **2008 – 2011**
B.Sc. Applied Physical Sciences (Mathematical computing)

PERSONAL

- **2012,** Received Price money of INR 5000 from **former finance minister Shri. Pranab Mukherjee,** for the work of amphibian population growth pattern & density estimation. **(Project at Indian Statistical Institute & NSSO)**