Ashok Kumar

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SUMMARY

- Experienced data scientist with deep knowledge of analytics, big data, and machine learning. Been building large-scale self-serve data science and ML applications serving millions of customers. Proven ability to extract insights from data and distilling complex analysis into concise communication for business teams. Global exposure in US, Singapore & India
- Theoretical & applied expertise of a variety of machine learning techniques: Supervised and unsupervised algorithms, dimensionality reduction, anomaly detection, time-series analysis, ensemble methods, Bayesian learning, recommendation engines, computer vision (CNN architectures), natural language processing (Spacy, LSTM, bert), and deep learning
- **Skills**: Python, Pytorch, TensorFlow, R, Hadoop, Spark, Visualization (Tableau, d3), SQL, Flask, Java, Scala, Matlab
- **Projects**: Recommendation engine for board-games, achieved expert-level accuracy for detecting pathologies on CheXpert radiograph dataset, predicted revenue events for Cypress.io, top 9% on public LB in Kaggle's tweet sentiment extraction

EXPERIENCE

- **Bank of America** — Plano, TX
  Vice President, Technology Manager ⇐ AVP, Technology Manager ⇐ AVP, Data Scientist — *Nov 2016 - Present*
  - Filed two patents in ML space: a) for building an anomaly detection algorithm to identify emerging issues in the bank's 16k+ ATM network. Using a 2-step SARIMAX approach improved MAPE by 20%, b) for designing an industry-first approach for accurately identifying customers accounts for escheatment, productionalized using Hive & PySpark
  - Designed a novel method to merge duplicate merchant names using transaction distributions (patent filing in progress)
  - Key role in developing algorithms for the most popular customer insights for Erica (BofA's virtual financial assistant): identifying subscriptions, tracking recurring spikes, balance watch, and FICO tracker. 12MM+ customers use Erica
  - Improved customer attrition model (+7% recall) via an LSTM implementation on a sequence of customer interactions
  - Implemented NLP algorithms for sentiment analysis, NPI data masking, vulgar words removal for customer survey data
  - Leading a team of Hadoop and data science developers to drive enterprise data analytics strategy: building data lake (5PB+ data), managing 150+ analytical value-added processes & designing visual dashboards (300 reports, 6000 users)
  - Leader of the AI/ML technology focus group that caters to 20k+ associates and drives training, POCs, hackathons, etc.

- **EXL Service** — New York, NY
  Senior Consultant, Decision Analytics (Consultant for American Express) — *Mar 2016 - Oct 2016*
  - Designed a new liability structure for the company's merchant lending business to contain write-offs with an estimated net benefit over $50 MM PTI. Identified over $1 Bn opportunity in charge volume for the company's SB cards business

- **QlikPass (subscription-based health start-up)** — Mumbai, India
  Co-founder (entrepreneurial experience) — *Jul 2015 - Mar 2016*
  - QlikPass was a start-up focused on building a subscription-based B2C marketplace for fitness studios and customers
  - Led product development, built web and iOS apps. 400+ partners, 1000+ customers enrolled on the platform

- **Fractal.ai** — Mumbai, India; Singapore
  Associate Director, Advanced Analytics ⇐ Senior Consultant ⇐ Analytics Lead ⇐ Sr. Analyst — *Apr 2010 - Jun 2015*
  - Constructed a next-best SKU recommendation engine with hierarchical sales data using collaborative filtering (+8% lift)
  - Designed a multi-layered algorithm to predict new product sales within 7 days of the launch. Predictions were found to be within 15% of actuals. Pivotal role in the planning and execution of the global launch of a product worth $800 MM
  - Leader of advanced analytics & member of the leadership team for the largest account. Youngest associate director in the company. Promoted 3 times. A 3-time awardee of FractElite, Fractal's internal leadership award

- **Wadhawan Holdings** — Mumbai, India
  Analyst, Strategy and Analytics — *Jul 2008 - Apr 2010*
  - Segmented and profiled grocery retail customers into 8 groups using k-means clustering on customer level sales data with SPSS Modeler, new customers classified with MLP. Generated market basket insights using apriori algorithm.

EDUCATION

- **Georgia Institute of Technology** — *M.S. Computational Data Analytics; GPA 4.0; 2020*
- **Indian Institute of Technology, Bombay** — *B.S. Chem. Engg.; All India Rank 152 in JEE screening; 2008*
- **Certifications** — *Coursera: Deep Learning Specialization, Udacity: Data Scientist Nanodegree*