

# Ravikiran Daparth

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## Relevant Skills

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**Languages & Frameworks:** Python, Scala, Apache Spark, SAS, Java, SQL

**Coursework:** Linear Algebra, Probability & Statistics, Machine Learning, Deep Learning

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## Professional Experience

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**Capillary Technologies | Senior Data Scientist | ML Engineer**

Aug 2017-Present

**Summary: (Scala, Spark, Python)** Development and scalable implementations of ML Algorithms around Personalization, Recommendations and Retail Insights. Driving research collaboration with IIT Kharagpur for building long term ML capabilities

### **Personalization of Offline Campaigns**

- **Developed** ML solutions to various facets (Category targeted, Time sent, Offer, Text) of Offline campaign personalization
- **Structured** the problem as sub-problems involving Recommendations, Classification, user propensity and **experimented** variety of approaches like Collaborative Filtering, Matrix Factorization etc
- Achieved ~25% **uplift** in campaign response rates due to the virtue of all the personalization

### **Recommender systems**

- **Experimented** and **Implemented** algorithms for various personalized and non-personalized recommendation use cases
- **Smart Item List** for FMCG vertical to improve Retailer ordering experience from distributors. Consumption based algorithms to rank the items and their expected quantity coupled with collaborative filtering for recommending prospective items
- Replacement suggestions for out of stock items by finding the most similar items

### **Artificial Intelligence powered Retail Assistant**

- **Developed** algorithm for mining actionable **Insights** of brand metrics like Sales, ABV, Products sold
- **Forecasting** and **Outlier Detection** to identify entities at risk of churning

### **Voice products using conversational data from Retail Stores**

- Developed **Automated Speech Recognition** capability for store conversations using open source tools like Kaldi
- **Speaker verification** to extract the speaker level utterance from the conversation

**American Express | Analyst – Data Science**

Sep 2015-May 2017

**Summary: (SAS, Java)** Developing and implementing customer value models which aid in Customer Acquisition. Key experience around solving Regression problems, feature engineering and statistical inferencing

### **Customer Value Modelling**

- Response Models predict the probability of the prospect responding to the solicited offer. **Remodeled** the response by **formulating** a novel reweighting technique to **counter the bias** arising from **historical targeting information**.
- **Developed** Offer independent customer behavior models by identifying robust features which offer strong discrimination across all the offers. **Formulated** an index for Balance Churning by creating triggers from Feature **binning**
- **10% improvement** in performance, 90% reduction in complexity with an **incremental 20k new accounts** (~30MM revenue)

### **Offer Recommender**

- **Developed a KNN** based Offer **Recommender** which finds the optimal offer to be mailed based on maximizing the profitability among the eligible offers and the Offer **preference** of the prospect
  - **Obtained** an Estimated Improvement of 20% in Net profit on the same investment
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## Education

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**Indian Institute of Technology Madras (IIT Madras)**

2010-2015

- Bachelor of Technology and Master of Technology in **Electrical Engineering**
  - **Extra-Curricular activities:** Head-Industry & Public Relations, Finance team of Institute Technical Festival
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## Awards & Achievements

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- Awarded Analyst of the Quarter during my first quarter of working at American Express
  - Recipient of MCM scholarship during undergraduate studies at IIT Madras
  - All India Rank 601 in IIT-JEE 2010 out of 475,000 students
  - Scholar of KVPY awarded by Indian Institute of Sciences selected out of 100,000 applicants
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