Arun Sinhmar
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PROFESSIONAL SUMMARY

Data Science and Consulting professional with **~5 years of experience** in developing impactful solutions for fortune 500 companies by advancing commercial outcomes using machine learning and statistical modelling techniques.

EDUCATION

Rutgers University - New Brunswick, NJ
Master of Science in **Statistics** - **Data Science** – **CGPA 4.00/4.00**   Aug 2018 – Dec 2019

National Institute of Technology, Hamirpur, India
Bachelor of Technology in **Engineering** – **CGPA 3.67/4.00**   Aug 2009 – May 2013

TECHNICAL AND OTHER SKILLS

Programming: Python, R, SAS, SQL, Hadoop, Tableau, MS Excel (advanced)
Pharmaceutical Data Sources: IMS: Xponent/DDD, payer hierarchy data, APLD, HCP (personal & NPP promotions data)
Machine Learning: Regression, Classification, Clustering, Ensemble methods, Decision Trees, Time Series, Hypothesis testing
Management Skills: Strategic Thinking, Storyboarding, Leadership, Team Building, Project Management

PROFESSIONAL EXPERIENCE

Novartis, NJ, USA
Marketing Science intern   **May 2019 – Present**
- **Campaign tracking and evaluation**: Conceptualized executive dashboards to track customer targets for peer-to-peer campaign, quantified ROI impact and improved execution strategy for higher returns.
- **Targeting and Segmentation:** Identified the drivers for brand volume and recommended key target segments using clustering techniques.
- Designed **social network analysis** to identify referral networks among doctors and their affiliations using APLD data.
- Designed **activity analysis** to measure brand and competitor's engagement with KOLs, to design better targeting strategy.

ZS Associates, New Delhi, India
Business Analytics Associate Consultant   **Jan 2016 – Jul 2018**
- *Team Lead*: Client's trusted partner in solving the business problems using descriptive, predictive and prescriptive analytics; collaborated with sales, marketing and brand teams to understand the objectives and provide actionable recommendations.
- *Promotion Response Analysis:* Empirically evaluated the sales responsiveness to various digital channels (emails, display banner ads, Paid Search, etc.)
- *Marketing Mix and Budget Optimization*: Optimized the marketing budget plans to maximize profit by effectively allocating spend across various campaigns. Simulated theoretical and planned spend marketing scenarios to identify the best channel mix that aligns with long-term strategy.
- **Test and Control Experimentation Design:** Evaluated the effectiveness (lift in sales) of the controlled promotional events and sales contests using look-alike matching.
- *Go-to-Market Strategy, Sales Force Structure and Sizing:* Designed an optimized sales force sizing plan using affordable coverage approach and workload-distribution algorithm to hit the sales team's forecast. Established optimal sales force size and evaluated a variety of what-if scenarios answering questions like ROI, NPV, etc.

ZS Associates, *Business Associate*   **Dec 2013 – Dec 2015**
- *Analytics Process Optimization:* Facilitated setting up a commercial analytics project of $3 million initial investment
  - designed KPIs for executive summaries and visualization reports to monitor brand's sales trends and impact
  - enhanced sales force's goal setting methodology using managed care factors (attainment improved by ~5%)
  - improved and automated business processes using Value Stream Mapping (VSM) approach; cycle time was reduced by ~50% and project cost by 30% (~ $1 million per annum).
- *Predictive Analytics*: Used ML modeling techniques to predict opportunity triggers for the brand by identifying the likelihood of a significant drop in sales. Strategized the targeting of physicians using low cost non-personal promotional channels to prevent the likely drop in sales.
- *Forecast vs. Actual Sales Gap Analysis*: Quantified various factors impacting sales volume using sales attribution modeling (generalized linear models) and identified the key factors responsible for increase in gap between forecast & actual sales.

Ministry of Urban Development, GOI, New Delhi, India   **Dec 2016 – Sep 2017**
Assistant Section Officer
- Collaborated with senior bureaucrats to improve sanitation and health indicators across India.
- Under government's flagship initiative Clean India Mission, reviewed key socio-economic indicators and finalized proposals related to sanitation; designed public grievance-redressal tracking system for timely resolution of citizens complains and queries.

ACADEMIC PROJECTS

- **Key indicators impacting education level of countries**: Cleaned the World Bank data to create the relevant features set; using the regularization techniques identified the key drivers for education level. Trained a **random forest** to predict the education level in years for any country**.**
- Built a **search app** using **Spark RDD** to retrieve relevant articles and compute **text similarities** between articles.
- Social media analytics **(sentiment analysis, polarity score, topic modelling)** on 2019 Indian elections using Twitter data.