Harshita Vemula
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EDUCATION
The University of Texas at Austin
M.S. in Operations Research.
Coursework : Applied Probability, Linear Programming, Linear Models, Time Series and System Analysis, Applied Stochastic Processes, Reinforcement learning, Statistical models for Big Data, Statistical Machine Learning, Integer Programming

TECHNICAL SKILLS
Software and programming languages: Python | Excel | R | Matlab | SQL | Looker | BigQuery |
Packages: Numpy | Pandas | Matplotlib | Seaborn | Scikit-learn | Pyomo | Tensorflow |
Statistical methods: A/B testing | Point and interval estimation | Causal analysis | Ensemble learning | Dimensionality reduction | Resampling methods | Tree based methods |
Machine Learning: Classification | Regression | Clustering | NLP | Deep learning and Neural Networks | Recommender systems | Anomaly detection | Time series analysis |

WORK EXPERIENCE
Data Scientist, Revenue Science, Twitter   July 2021 − Oct 2022
- Brand awareness team - Worked on building and pricing products to better the advertiser experience on Twitter.
  -Campaign planner: Worked on building ML models for advertisers to forecast reach, frequency and CPM for various ad formats to help plan better campaigns. It was adopted by 60% TCS advertisers who amounted for 20% of total twitter Ad revenue. Defined KPIs and built dashboards to monitor planner's performance. Also built products to predict advertiser underspending pattern and suggested methods to counter it.
  -Ad product pricing: Collaborated across sales and ad auctioning teams, performed data driven pricing analysis and came up with pricing strategies for the Takeover ad product which generates over \$300M/yr.
- Ads privacy team - Strategized serving win-back prompts to users for in-app privacy settings by performing observational studies; Conducted revenue and signal impact analysis of new privacy policies to help drive action strategies and resource allocations.

Data Science Intern, Dell   May 2019 − Oct 2019
- Identified different operating states of a server from the telemetry data obtained for a server license with revenue potential of \$200M per year; feature is used for intrusion detection, optimal scheduling of jobs etc.
- Implemented Mean Shift Clustering algorithm to define a baseline; augmented data using SMOTE and trained an Autoencoder to obtain reconstruction error for novelty detection.

Student Consultant, Affinity Answers   Jan 2019 − May 2019
- Analyzed purchasing patterns of the client and built a collaborative filtering based recommender system to suggest new audience segments.
- Heuristically identified high-performing audience segments and clusterized matrix factors to extract similar segments; calculated trends, seasonality of the new segments suggested to be added to the shelf using google trends data. Boosted the sell through rate of the segments on shelf by 1.5 times.

ACADEMIC PROJECTS
Building a Reinforcement Learning agent for efficient energy management.   Oct 2019 − Dec 2019
- Implemented RL algorithms to build an agent for demand response management to minimize the total cost of energy consumed from the grid. Designed the state space, action space and reward functions.

ACHIEVEMENTS
Microsoft Azure Hackathon - Winner   Apr 2019
- Forecasted rental demand at kiosks of a bicycle sharing company using Random Forests; predicted hourly position of 5000 bicycles using stochastic modelling.
- Formulated a dynamic pricing framework for the network and proposed a relocation strategy.

LEADERSHIP EXPERIENCES
Student Mentor, NIT Nagpur   July 2016 − May 2017
- Coached 20 freshmen students to understand the challenges and opportunities present in the Institute and counseled academically weak and troubled students cope with academic, extra-academic and personal problems.

Core Coordinator, Entrepreneurship Cell, NIT Nagpur   May 2016 − May 2017
- Collaborated with a 13-member team to organize a 3-day Entrepreneurship Summit; Headed the corporate relations team.