MENUKA JAISWAL

menukajaiswal07@gmail.com, (434) 328 - 9288
210 Copeley Road, Apt 1, Charlottesville, VA, 22903

EDUCATION

University of Virginia	Masters of Science in Data Science	Charlottesville, VA
Overall GPA: 3.95/4		June 2019 - May 2020
Indian Institute of Technology Guwahati	Bachelor of Technology in Engineering Physics	Guwahati, India
Overall GPA: 7.62/10		July 2012 - June 2016

EXPERIENCE

Olacabs(*Online transportation network company; Uber's Indian competitor*) – **Research Engineer**   **April 2018 - June 2019**
- To ensure customer safety at Ola, developed an algorithm to generate ride safety scores in real-time(in production). Generated spatial clusters using agglomerative hierarchical clustering. Utilized linear models & anomaly detection techniques to generate safety index for all possible routes between clusters using gps signals, historical rides, traffic density, complaints and reported crime data.
- Detected potholes with 86% accuracy using signal processing and clustering techniques on the data from accelerometer sensors. Generated monthly HTML report with pothole location markers on google map and shared with the state government for action.
- Developed a logistic regression model to generate driver scores based on their driving behavior(harsh acceleration, brakes, speeding etc.), customer complaints, past accidents and vehicle maintenance records - convinced operations team to use it for driver training.
- Technical skills: **Python, Scikit-learn, Matplotlib, Seaborn, Hadoop, Spark, Sql, R, Leaflet, Kibana, Git, AWS**

Olacabs – *Product Analyst*   **April 2017 - March 2018**
- Analyzed commute patterns of users, predicted their home and work locations using DBSCAN clustering, identified routes with highest demand density and used this information in supply shaping which resulted in a reduction of the demand-supply gap by 1.5%.
- Designed experiments, conducted A/B tests and performed statistical analysis of results for multiple features release.
- Performed customer retention analysis resulting in customer segments and identification of the critical factors affecting retention.
- Constructed ETL & BI dashboards on Microstrategy, owned and kept track of 30+ KPIs across pricing, matching, customer experience & safety, analyzed trends, performed root cause analysis and presented reports to the leadership.
- Technical skills: **Python, Hive, Qubole, Microstrategy, A/B Tests, Confidence intervals, Clustering, Visualization, Dashboarding**

Runnr(*On-demand delivery network company; Acquired by Zomato*) – *Analyst*   **June 2016 - April 2017**
- Developed a merchant churn prediction model(84% accuracy) using a random forest classifier with an RoI of $20k every month.
- Detected fraud patterns using anomaly detection and identified the areas of potential fraud preventing more than $30k in losses.
- Analysed search engine statistics leading to the introduction of new feature on home screen which improved click through rate by 4%
- Built rating algorithm for drivers based on their interaction with the system & customer feedbacks- taken into account for their payout.
- Helped the company successfully meet growth objectives through data-driven strategies leading to acquisition by an industry leader.
- Technical skills: **Python, Pandas, Numpy, Sql, R, Dplyr, ggplot, Periscope, Confluence, MS Office, Classification, Anomaly Detection**

ACADEMIC PROJECTS

Deep Learning to assess classification of Protein Structure - Capstone Project   **Sep 2019**- *In Progress*
- Constructed an autoencoder model using U-Net architecture in PyTorch for 3D protein structures and 57 functional features. Exploited data sparsity using spatially-sparse 3D convolutional layers in the network which improved the model training speed significantly.
- Developing a system to generate similarity scores between proteins using loss functions of the autoencoder models.

Stock Market Prediction using Bayesian inference - Course Project   **Dec 2019**
- Built structural time series model using TensorFlow Probability package for forecasting everyday closing stock price of Amazon.
- Used mean-field approximation with evidence lower bound optimization for parameter inference and computed both point forecasts & predictive uncertainties in stock price. All actual prices fell within the 95% credible interval with accuracy(+ve/-ve change) of 83%.

Exploring music through data science - Course Project   **July 2019**
- Leveraged Transfer Learning to predict the genre of a music album based on its cover art. Parsed XML data from Discogs, scraped google images, fine-tuned and retrained last few layers of InceptionV3 model in keras on genre data achieving a top-2 accuracy of 66%.

RELEVANT COURSES

Statistics and ML: Machine Learning, Data Mining, Ethics of Big Data, Bayesian Machine Learning, Graph Mining, Text analytics
Programming: Foundations of Computer Science**,** Data Structures and Algorithms, Python for data analysis

ADDITIONAL INFORMATION

Research abstract accepted for 2020 Systems and Information Engineering Design Symposium (SIEDS).
Proposal accepted for the 2020 TomTom Applied Machine Learning Conference.
Selected in **top 1 percentile of 1,000,000 students** in IIT-Joint Entrance Examination 2012;
Recipient of MCM scholarship 2013, 2014 by IIT Guwahati