**Animesh Goyal**

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**EDUCATION\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**THE UNIVERSITY OF TEXAS AT AUSTIN, AUSTIN, TX** May 2020

*Master of Science in Operation Research and Industrial Engineering*  **GPA: 3.72/4.00**

**BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI, INDIA** May 2017

*Bachelor (Hons.) of Engineering, Manufacturing Engineering*  **GPA: 3.85/4.00**

**SKILLS/ COURSES\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

* Coding / Big Data Python (Keras, TensorFlow, Numpy, Pandas, Plotly, Scikit-learn, SciPy, Seaborn)

R, Spark, Java, Tableau, SQL, NoSQL, Git, Linux, MATLAB (Intermediate), LaTeX, MS Excel

* Machine learning Regression, Classification, Anomaly Detection, Reinforcement learning, Image Classification
* Courses Data Science Lab, Time Series Analysis, Linear Models, Applied Probability, Linear Programming

**WORK EXPERIENCE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**UTCS ARTIFICIAL INTELLIGENCE LABORATORY Austin, TX**

*Graduate Research Assistant, Department of Computer Science, UT Austin May 2019 - Present*

* Working on Solving Multi-Agent Problem using Reinforcement Learning
* Linux, Java
* RoboCup Rescue Simulation

**WEIR MINERALS Bangalore, India**

*Graduate Engineer Trainee Jan 2017 - Jun 2018*

* Developed and Validated aPriori component scenario, **identified** **cost drivers** in design using the cost model
* Reduced the gaps between validated cost model and supplier quote by identifying sources of gaps and negotiating a resolution to cost gap using **Product cost management** platform called "Apriori"
* Part tooling estimate was **reduced by 20%** by changing the design resulting in **annual savings of $730,000**
* Developed weekly report for the executives which helped discover actionable insights and **KPI’s in Tableau**

**HACKATHON *(Winner, Data Hack Challenge 2019 organized by Microsoft)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

● Dataset contained GPS location of kiosk from the Austin B-Cycle bicycle sharing program for over 4 years duration

● Implemented Time Series analysis using **ARIMA Modeling** to forecast the demand at each kiosk

* Calculated **Transition Probability Matrix** for each hour to **Determine the Total Operating Cost of the Network**

● Determined overall profitability of network, current hotspots and introduced coupon system for kiosks with low demand

**PROJECTS\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**PREDICTING CLICK-THROUGH RATE (CTR) FOR AN AD AGENCY**

*Algorithms Applied****: XGBoost, Random Forest, Logistic Regression, LightGBM***

● Implemented Feature Engineering techniques like Imputation, Scaling, OneHot Encoding

● Performed Hyperparameter tuning using Bayesian Optimizer, Stacking using Voting Classifier to improve AUC

● Ensemble of XGBoost and Random Forest performed best with an **AUC score of 0.974**

**DETECTING THE ONSET OF MACHINE FAILURE USING ANOMALY DETECTION METHODS**

*Algorithms applied:* ***KMeans Clustering, DB Scan, Isolation Forest, AutoEncoder, One-Class SVM***

* Built a model using a data-driven approach to Anomaly Detection for early detection of faults for a condition-based maintenance
* Compared and evaluated several semi-supervised algorithms in terms of their **F1 scores**
* Successfully detected failures to address key issues in maintenance like safety and cost-effectiveness