Animesh Goyal

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Education

The University of Texas at Austin, Austin, TX, USA Aug. 2018 – May 2020
Master of Science in Operation Research and Industrial Engineering *GPA: 3.65/4.00*

Birla Institute of Technology and Science, Pilani, India Aug. 2013 – May 2017
Bachelor of Engineering in Manufacturing Engineering *GPA: 3.90/4.00*

Experience

Artificial Intelligence Research Assistant May 2019 – May 2020
The University of Texas at Austin *Austin, TX*

- Worked under the supervision of Dr. Peter Stone on developing an environment for implementing and testing various multi-agent deep reinforcement learning policies to study their effect on achieving pre-defined objectives
- Project involves integration of functionalities to several thousand lines of code in RoboCup Rescue simulator
- Trained algorithms like Proximal Policy Optimization (PPO) and Deep Q-networks (DQN) using OpenAI's Gym on different sized maps to find out which one works better in that particular setting

Graduate Engineer Trainee Jan 2017 – June 2018
Weir Minerals *Bangalore, India*

- Developed and validated component scenario to reduce part tooling estimate by 20% resulting in annual savings of $4.2M
- Wrote SQL queries to extract models and identify cost drivers in machine component design
- Developed weekly report for the executives which helped discover actionable insights and KPI's in Tableau

Achievements

- Winner of UT Austin's Data Hack 2019 organized by Microsoft Azure, Oracle and ML DS group at UT Austin
- Published Machine Learning articles on Medium.com which garnered more than 50k+ views

Projects

Movie Recommendation System | *Python* Aug 2019 – Dec 2019

- Built a model to recommend movies to a new user using Multi-Armed Bandit algorithms like Epsilon Greedy, UCB
- Implemented Collaborative Filtering to fill sparse user rating matrix and clustered them using K-means clustering
- Thompson Sampling performed best with normalized discounted cumulative gain (NDCG) score of 0.94

Anomaly Detection using Semi-supervised Hybrid Model Approach | *Python* Jan 2019 – May 2019

- Built a semi supervised hybrid model in Tensorflow using Auto Encoder and KNN for early breast cancer detection
- Compared and evaluated results with One-Class SVM in terms of their F1 scores
- Final model improved detection accuracy and reduced computational complexity

Predicting Click Through Rate for an Ad Agency | *Python* Aug 2018 – Dec 2018

- Developed machine learning model to accurately predict the number of customers visiting an Ad Agency
- Analyzed and processed data using various data visualization tools like Seaborn, feature engineering tools and performed hyperparameter tuning using Bayesian Optimizer
- Ranked 6th among a class of 400 students in the In-class Kaggle Competition achieving an AUC score of 0.944

Technical Skills

Languages	Python, R, Java, MySQL, MATLAB, HTML
Packages	Numpy, Pandas, Matplotlib, Keras, TensorFlow, Fastai, Plotly, Scikit-learn, SciPy, Seaborn
Technologies	Spark, Hadoop, Linux, Version control, Shell Scripting
Statistical Skills	Regression, Classification, Clustering, Dimensionality Reduction, Hypothesis Testing
Courses	Data Science lab, Time Series Analysis, Linear Statistical Models, Applied Probability