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Apurba K. Saha

Education

May 2024 **University of Arizona, AZ, USA**, *Ph.D. in Systems and Industrial Engineering*

GPA: 4.0 | Minor: Statistics | EREF Scholarship | Wildcat Scholarship

Relevant Coursework: Machine Learning, Neural Network, Data Analysis, Survey of Optimization

Dec 2023 **University of Arizona, AZ, USA**, *M.Sc. in Statistics and Data Science*

Relevant Coursework: Theory of Probability, Theory of Statistics, Advanced Linear Regression

Oct 2018 **BUET, Dhaka, Bangladesh**, *B.Sc. in Industrial and Production Engineering*

Work Experiences

Aug 2020 - Present **Graduate research assistant**, *University of Arizona, AZ, USA*

- Design a location-routing model for a carsharing system with autonomous electric vehicles
- Developed optimal incentive strategies for Li-ion battery (LIB) recycling by formulating a bi-level optimization model, which can save 870,432 ton-eq CO_2 emissions
- Designed resilient recycling network for NdFeB magnet by formulating a stochastic model, which can lead to an expected profit of $101 millions
- Collaborated with Idaho National Laboratory and multiple recycling companies in the US

Jan 2021 - May 2021 **Graduate teaching assistant**, *University of Arizona, AZ, USA*

- Interacted with a class of 90 students during in-class activities and office hours
- Graded student's weekly homework assignments and exam papers

Key Projects

March 2022 - May 2022 **Predicting EPL football match winners using machine learning**, *[Project link]*

- Web-scrapped scoring and shooting data for 20 teams who played last 5 seasons
- Fitted a random forest model which predicts the winner with 55% precision

Sep 2022 - Nov 2022 **Identifying time expressions in a text using neural network**

- Preprocessed text data and designed RNN architecture for a sequence-to-sequence model
- Hypertuned the model which identifies time expressions with a 0.78 F1 score on average

Technical Skills

Programming: Python (expert), C++ (prior experience)
Simulation: Arena
Data Analysis: MySQL, Pandas, Matplotlib
Optimization: AMPL, CPLEX
Machine learning: Keras, Sci-kit
Statistics: R