**Capstone Project Submission**

**Instructions:**

i) Please fill in all the required information.

ii) Avoid grammatical errors.

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| **Team Member’s Name, Email and Contribution:** |
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| **Please paste the GitHub Repo link.** |
| Github Link:- https://github.com/ImVikashKr/Bike-Sharing-Demand-Prediction.git |
| **Please write a short summary of your Capstone project and its components. Describe the problem statement, your approaches and your conclusions. (200-400 words)**  Currently Many big cities have adopted the use of rental bikes to improve mobility comfort. It is crucial to make the rental bikes accessible and available to the general public at the appropriate time since it reduces waiting. Eventually, maintaining a steady supply of rental bikes for the city emerges as a top priority. Predicting the number of bikes needed to maintain a steady supply of rental bikes at each hour's interval is essential.  We have analyzed Seoul city bike sharing dataset. Through analysis, we saw that in general the number of bike rents in 2018 was more than in 2017. The highest number of bike rents occur in summer while the least bike rents occur in winter. In daily basis, the trend of bike rents is almost similar with slight peaking demands on Thursday while drops on Sunday. In hourly basis, the bike counts peak in the afternoon (from 15.00 to 20.00). There are two peak occurences, at 7.00 and at 17.00, which is most likely to be caused by workers going to office in the morning and going back home in the afternoon.  The hourly movement of bike counts seems to correlate with temperature, visibility, windspeed, and humidity. The bike counts peak in the afternoon (from 15.00 to 20.00) where temperature is the highest, with the most visibility, windspeed, and least humidity. There were days in a weekday when the bike sharing facility was not functioning. However, during public holidays, the facility was still operating.  Based on this analysis,  Future events can be predicted with 49.73% accuracy using linear regression.  With an accuracy rate of 85.69%, decision trees can forecast the future.  Random Forest has a 92.18% accuracy rate for future prediction. |
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