Wireframe
Rental Bike share Demand Prediction

Piyush Aggarwal

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Abstract

Bike sharing systems are a new generation of traditional bike rentals where the whole process from membership, rental and return back has become automatic. Through these systems, users are able to easily rent a bike from a particular position and return back at another position. Currently, there are about over 500 bike-sharing programs around the world which is composed of over 500 thousand bicycles. Today, there exists great interest in these systems due to their important role in traffic, environmental and health issues. Apart from interesting real-world applications of bike sharing systems, the characteristics of data being generated by these systems make them attractive for the research.

The most important problem from a business point of view for bike-sharing systems like Capital Bikeshare (one of the U.S.A.'s largest bicycle sharing systems) is to predict the bike demand on any particular day. There is a possibility that bike stations can be full or empty when a traveler comes to the station. While having excess bikes results in wastage of resources (bike maintenance and land/bike stand required for parking and security), having fewer bikes leads to revenue loss (ranging from a short term loss due to missing out on immediate customers to potential longer term loss due to loss in future customer base). Thus having an estimate on the demands would enable efficient functioning of this company Capital Bikeshare. And to predict the use of such a system can be helpful for the users to plan their travels and also for the Capital Bikeshare entrepreneurs to set up the system properly.

1. Web Interface

1.1 Landing Page

When user clicks URL https://bikeshare-demand-prediction-production.up.railway.app/ , the user would land on the webpage having a welcome message. I have created just a basic welcome page for time being

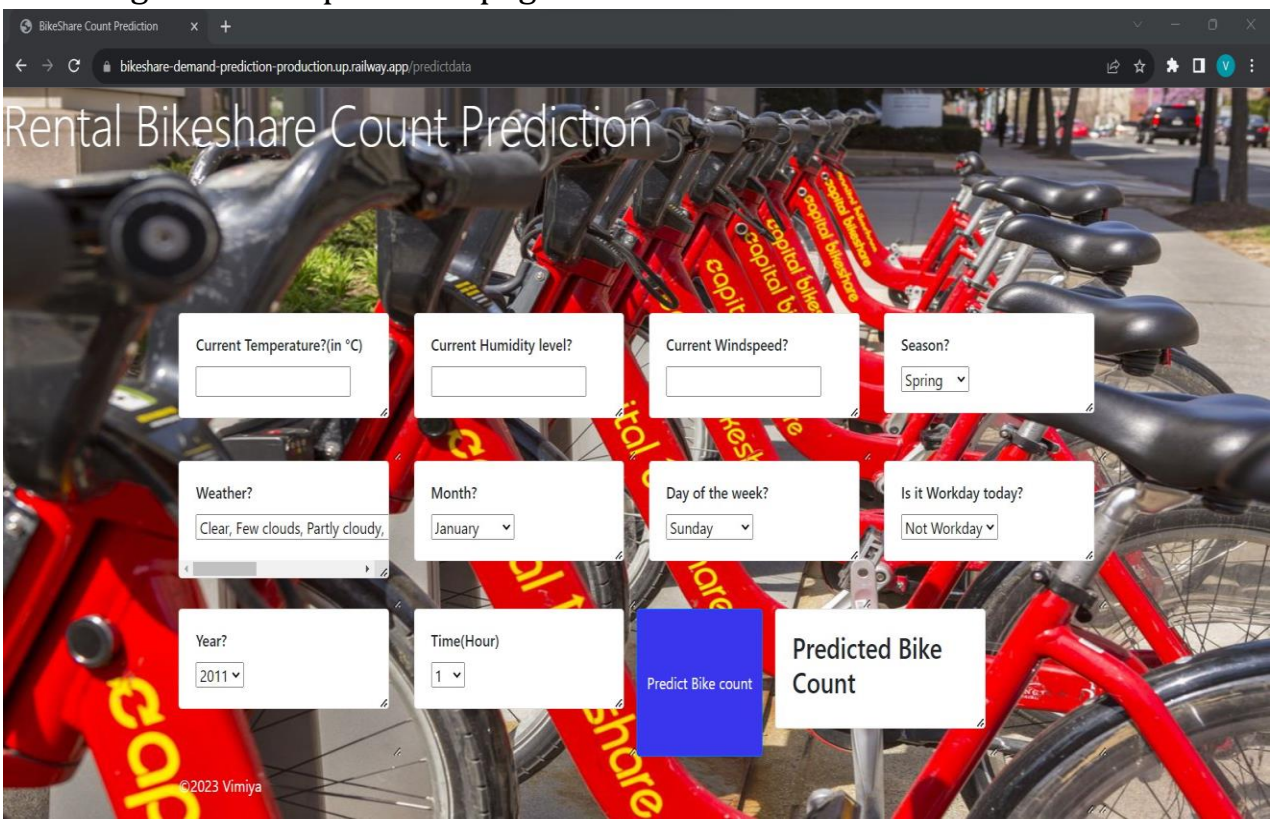
1.2 Predictor Page

Just by adding '/predictdata' on above welcome page URL, user would be directed to the predictor page https://bikeshare-demand-prediction-production.up.railway.app/predictdata .

There won't be any need for the user to do the above work if we directly share this predictor page URL for the user to do prediction.

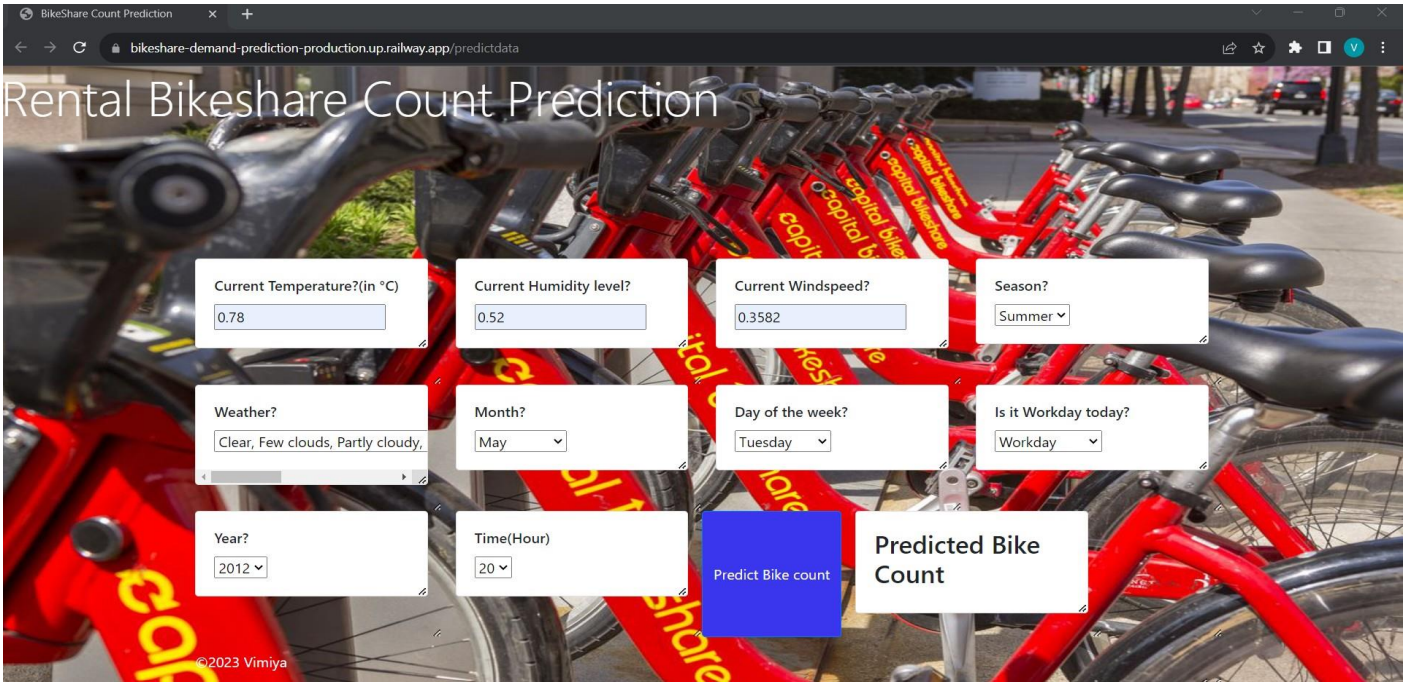
In this page, the user sees various fields asking for information that is required to predict the count of rental bikes that would be required. Every user input has its own dropdown where the user can select their input. After providing the required input and pressing the submit button, the page refreshes and displays the predicted count of bikes.

Following shows the predictor page:



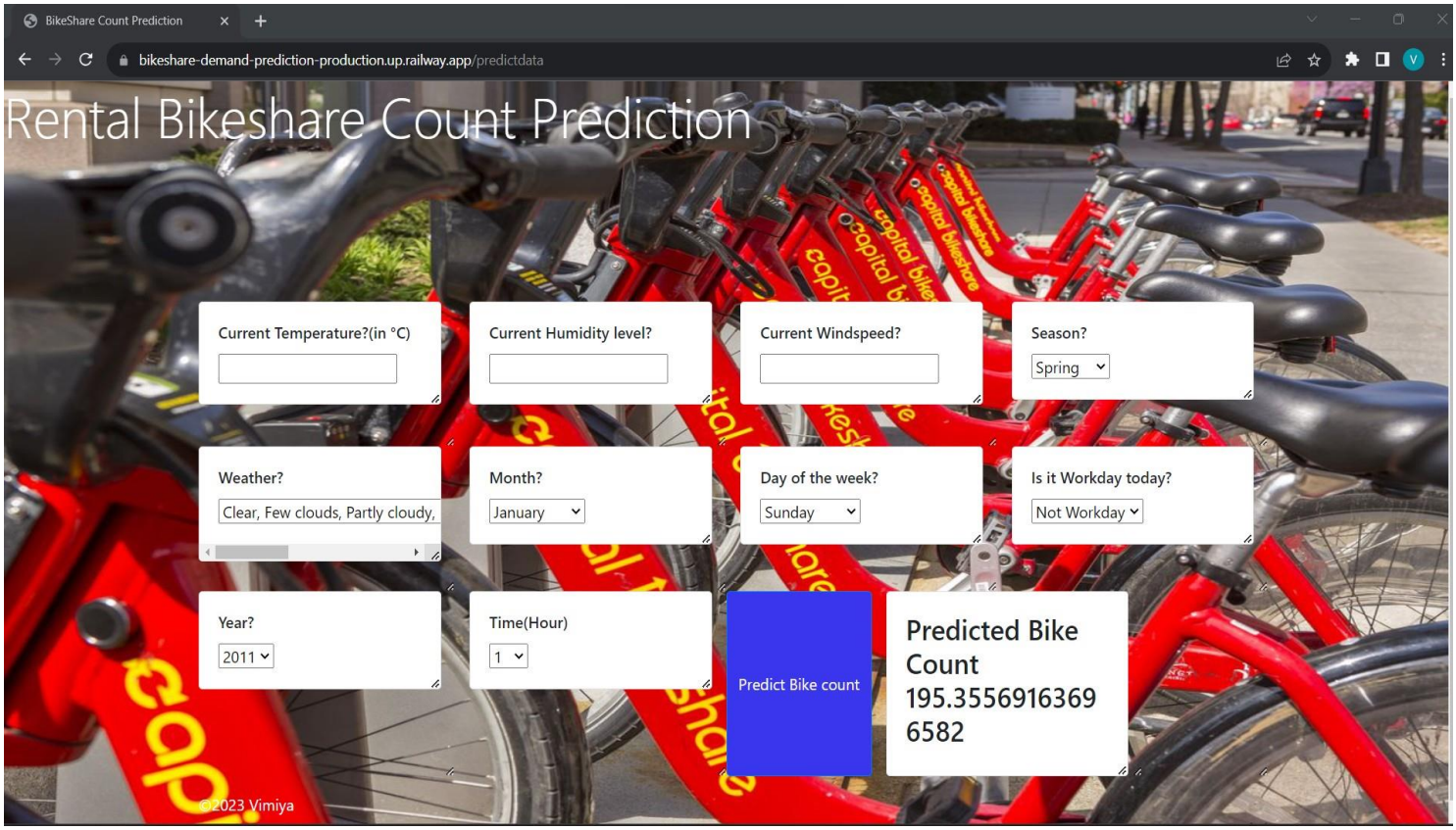
2. User Input

On the predictor page, the user has to provide all the information asked for the prediction. The user can select from the drop down lists attached to each of the input fields. And for other fields not having dropdowns, the user has to enter values. Once all the asked information is provided, the user clicks on the submit button to get the result.



3. Results Page

On the predictor page, the user provides all the asked information and then clicks on submit button. The predicted count of rental bikes is displayed to the user.



THANK YOU