Traffic Prediction Analysis.

Research proposal

Group -2

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Basic Background:

Around the world, there has been a lot of traffic congestion. It is caused by several factors, including (Expanding urban population, lack of real-time-data etc.). These huge catastrophes can have a significant impact on traffic and transportation networks, and it has been shown that these consequences have an impact on driving behavior, which may also result in traffic accidents. The dataset addresses the

factors that contribute to traffic congestion as well as the technology, tactics, and strategies that must be used to ameliorate traffic conditions.

Research Questions:

1. How are machine learning techniques applied in traffic forecasting and prediction using historical and real-time data?
2. How data visualization can help cities identify trends and anomalies, compare activities at a single site over several days, and better plan for anticipated changes in traffic flow.
3. How has the proposed solution improved traffic control in metropolitan areas?

Methodology:

This study concentrates on the research questions to obtain solutions and explain significant findings**.** Our projects use machine learning techniques to build predictive models using data from many data sources, including mapping data, traffic data, meteorological data, and various Real-time traffic data sources. This strategy helps in traffic forecasting and the implementation of effective actions to enhance traffic conditions mainly in urban cities.

Plan of work & Time schedule:

- Preliminary case evaluation to create research questions, October 17-18, 1-2 hours
- Research proposal Oct 20, 2-3 hours
- Data identification - Analyzing data sources and filtering based on objectives Oct 24, 3-4 hours

- develop methodology oct 28, 4-6 hours.
- Validation - outcomes evaluation and reviewing process, November 4, 4-6 hours
- Preparing project report Nov 7, 1-2 hours
- Presentation and visualization on November 12th, 2-3 hours
- Finalize project report - November 15, 1-2 hours

References:

- https://www.kaggle.com/datasets/fedesoriano/traffic-prediction-dataset
- Kumar S, Tiwari P, Zymbler M. Internet of Things is a revolutionary approach for future technology enhancement: a review. J Big Data. 2019. https://doi.org/10.1186/s40537-019-0268-2.