

Machine learning tools and techniques in local transportation systems in New Orleans, Louisiana.

Public transportation plays a crucial role in the city of New Orleans for both natives and visitors with transportation methods varying from streetcars, buses, ferries and taxis. These methods are used by various members of the community at all hours of the day, of varying ages so it is important that they have accurate schedules, inclusive of any delays. Furthermore, the utilization of machine learning has helped to increase safety, specifically around their streetcar lines in a combined partnership between the public and private sectors.

The importance of machine learning in this endeavor has not only helped the city to prevent damage to property (both public and personal), it is also helping to prevent accidents with individuals and reducing carbon dioxide emissions from idling vehicles in stand-still traffic. Data is achieved utilizing camera systems, sensors and software classified as Software as a Service (SaaS) in order to predict and increase efficiencies throughout the city for all methods of transportation.

Additionally, there are many models which were utilized prior to this technological advancement which utilizes neural networks with static features in time series patterns based on the passenger counters on public transportation throughout the city in order to get an accurate representation on the number of people moved via public transportation vs the private transportation.

The benefits which are achieved were accomplished through the creation of a data warehouse, utilizing an enhanced and dedicated fiber network connecting all the sensors, cameras and monitoring devices. The data is collected and assessed in order to offer possible solutions, however this data is also processed to train models to determine lengths of delays, and how to return the affected mode of transport to its original schedule.

Predictive analytics of predictive modeling after the data collection process would be the most used type of data processing used for increasing efficiencies as well as tracking the different methods of public transportation in order for the machine learning engineers to recommend changes to the transport authority.

The outcome of these avenues has numerous benefits for all parties, such as creating jobs for natives, reduction in greenhouse gases, reduce traffic time, potentially expanding to larger city areas in the Louisiana area, and lastly investment from a private and government partnership to benefit the city most importantly with the natives benefitting the most.