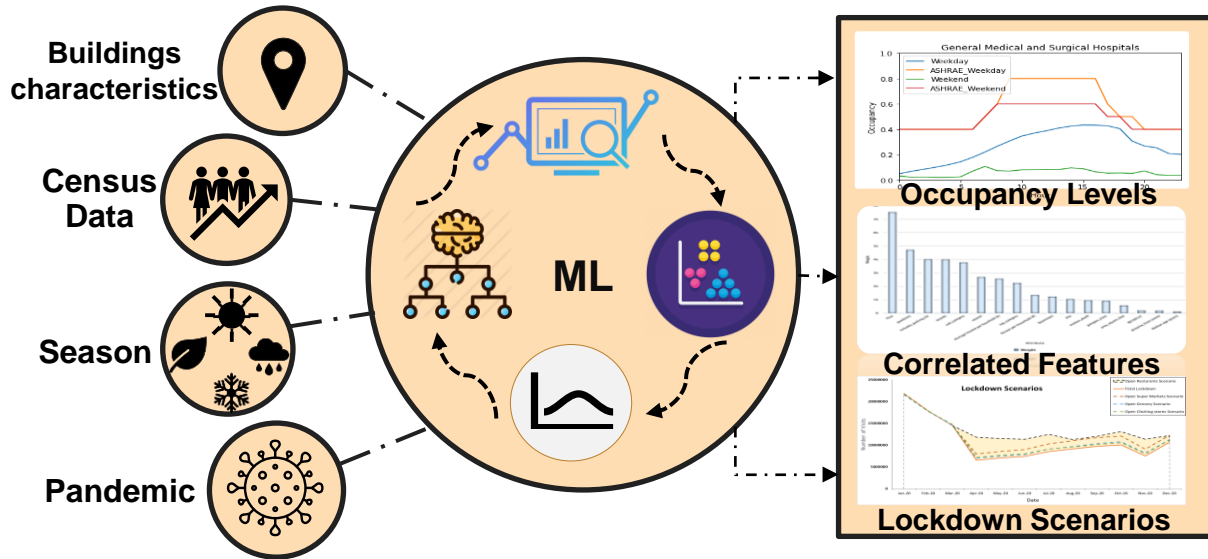


Data Attributes

Data Analysis

Results



How it works?

Machine learning algorithms (ML) are used to develop a classification model that predicts the occupancy levels based on several attributes, such as building size, census data, and pandemic status. Since occupancy data are not currently available for Montreal City, as a proof of concept, a dataset for New York city is used.

Outcomes

The proposed model: (i) predicts the number of visits based on buildings' characteristics, surrounding neighborhoods demographic information, and pandemic status; (ii) determines the impact of COVID-19 on the number of visitors for different sectors compared to a normal year. These outcomes could help the city to plan gradual openings of different business sectors based on their recovery status during the pandemic. Also, the city could customize business subsidy programs considering the unequal impact of COVID-19 on the number of customers for different sectors.

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Investigating Buildings Occupancy: COVID-19 Impact

What is it?

During the COVID-19 pandemic, several businesses in vulnerable sectors have been impacted by buildings occupancy restrictions. Through implementing a data-driven analysis approach, this project investigates the effect of the pandemic on the occupancy levels of different types of buildings (i.e., grocery stores and hospitals).

What is new and distinctive about your project?

Available standards are incapable of considering the dynamic change in occupancy levels of buildings due to unexpected events such as pandemics. In this context, this study aims at benefiting from the emerging mobile positioning data to track and predict the changes in buildings' occupancy levels before and during COVID-19.

