

Applied Data Science Capstone Project

Electrical Vehicle Charging Stations in Paris



I. Introduction

An electric vehicle charging station, also called EV charging station is a machine that supplies electric energy for the recharging of plug-in electric vehicles.

Some electric vehicles have converters on board that plug into a standard electrical outlet or a high-capacity appliance outlet. Others use a charging station that provides electrical conversion, monitoring, or safety functionality. These stations can support faster charging at higher voltages and currents.

Public charging stations are typically on-street facilities provided by electric utility companies or located at retail shopping centers, restaurants, and parking places. They can be operated by various private companies.

Our client is a private company which wants to invest on charging stations for electrical vehicles. The company choose Paris for their investments. The stakeholders want to investigate the city to choose the right places where they can set their new charging stations.

So, the questions that we are intended to answer are:

Are there sufficient customers that have electrical vehicles in Paris ?

Can we predict the number of electrical vehicles in the future years ?

What are the places in the city that have not sufficient charging stations ?

II. Data

We will use the following data to answer the questions:

- <https://www.automobile-propre.com/dossiers/chiffres-vente-immatriculations-france/>
This site is well known in France for the expertise in the automotive field for ecology. We will use Web Scraping to extract tables of the number of electrical vehicles sold in the last years.
- We will use the Foursquare location data to identify the venues which contain the category of “EV Charging Station” as mentioned in their official website:
<https://developer.foursquare.com/docs/build-with-foursquare/categories/>
we can see an extract of the category in the following image:



- <https://www.data.gouv.fr/fr/datasets/bornes-de-recharge-pour-vehicules-electriques-2/>
This site, which is an official French government site, contains dataset of charging stations of the entire country of France with the coordinates XLongitude and YLatitude. We will use the csv file to complete information in our data frame.