**Notebook Summary Report– T1 2023**

|  |  |  |
| --- | --- | --- |
| **Archived Folder** | **Contents/Notebook** | **Dataset** |
| AUS EV Charging Stations Data Dictionary | Xlsx file   1. Excel file of EVCS (EV charging stations) data type category description, no actual data just sample. | EV Data Dictionary.xlsx |
| AUS EV Charging Stations Notebook | Notebook   1. QLD and MEL EV charging station dataset (Qld & Melb) show data analysis of EV charging station including  * support DC and AC charging * public, commercial or workplace * has separate charging station at a specific place * popularity * No. of free charging station * Any car park * Charging KW * Price  1. Fetching number of Hospitals, parks, restaurants & Malls nearby EV charging station using Google Maps API services  * Extracted unique location of EV charging station * Use Google map API to extract the number of hospitals, park, restaurants and malls surrounding these EV station  1. Add back No. of EV charging station columns to the (2) notebook above | Notebook data  1)  MEVdata1.csv  QMEVdataset.csv  2)  QMEVdataset.csv  Updatedgeoapiev\_data.csv  3)  QMEVdataset.csv  NewEVUpdatedgeoapiev\_data.csv |
| Austin (US) EV Charging Stations Notebook | Notebook   1. Austin EV charging station location clustering analysis base on categories Dense, Normal and Sparse  * Clustered data saved to Austin\_clustered\_data.csv * Data having the clustering type and location data removed has saved to Austin\_supervisedml\_Dataset.csv  1. Austin EV charging station data analysis including  * usage access of EV for users * category of EV charging station * connector type of EV charging station  1. Fetching number of Hospitals, parks, restaurants & Malls nearby EV charging station using Google Maps API services  * Extracted unique location of EV charging station * Use Google map API to extract the number of hospitals, park, restaurants and malls surrounding these EV station | 1) AustinEVupdatedgeoapiev\_data.csv  Austin\_clustered\_data.csv  Austin\_supervisedml\_dataset.csv  2)  Plug-In\_EVerywhere\_Charging\_Station\_Network (Austin).cs  3)  cleaned\_austinev\_data.csv  AustinEVupdatedgeoapiev\_data.csv |
| Barcelona-Spain Analysis | Notebook   1. EVCS Visualisation using Barcelona Spain EVCS data  * Analyse the relationship between charging duration, power consumption and AvPower | 1) Barcelona-Spain.csv |
| Boulder-Colorado | Notebook   1. EVCS energy consumption analysis using Boulder Colorado dataset.  * Explore relationship between charging time, date, energy consumed, charging duration | 1) EVCS\_Energy\_Consumption\_Boulder\_Colorado.csv |
| EV\_Registered\_Data | Notebook   1. EV registration data analysis base on No. of EV registration from Aus, China, Canada, Europe, US, Latin America | 1)  EV\_Registered\_Data.xlsx |
| EVCS Interactive Maps | Notebook   1. Display EVCS location on map within jupyter notebook file using Melb and Geelong EVCS dataset   - identify EVCS that has no another EVCS within 5km, and identify off-street parking that does not offered EVCS, to recommend to build new EVCS | 1)  Greater\_Melbourne\_and\_Geelong.csv  Off-street\_car\_parking\_2020.csv |
| EVCS Prediction Model - Time Series | Notebook   1. EVCS consumption prediction of UK by time series   - developed a prediction model base on time series data and forcast future energy consumption trends for the next 365 days | 1)  EVCS Usage\_Sep16\_Aug17\_PerthandKinross.csv  EVCS Usgae\_Sep17\_Aug18\_PerthandKinross.csv  EVCS Usage\_Sep18\_Aug19\_PerthandKinross.csv |
| EVCS Prediction Model - Transactions | Notebook  1) EVCS consumption prediction using Random Forest algorithm based on a EVCS dataset in Netherland to explore the relationships between energy consumptions and all other features | 1) Netherland data.csv |
| Turku-Finland Analysis | Notebook   1. Data analysis of relationship between charging duration and energy generated by EV charger using EV charging data from Turku Finland | 1)  Turku Finland 2019.csv |
| UK EV charging stations | Notebook   1. EVCS location and charger type analysis using UK EV charging station data | 1)  uk\_location\_processed.csv |
| US-NC-Cary Analysis | Notebook   1. EVCS charger charging time and total energy generated analysis using Cary North Carolina data | 1)  Cary-NC-US-EVCS.csv |
| USEVChargerLocations | CSV file   1. US EVCS data | 1)  alt\_fuel\_stationsUS.csv |

|  |  |
| --- | --- |
| **Data Scraping and Cleaning Folder Content** | **Dataset** |
| IMPORTANT   1. Contain important information on how to collection EVCS data using Google API |  |

|  |  |
| --- | --- |
| **T3 2022 Folder Contents/Notebook** | **Dataset** |
| Subfolders   1. Australian\_EV\_charging\_Stations   Notebook  a) Melbourne EVCS density ML clustering – built and predict EVCS density using Random Forest, KNN, XgBoost, SVM and logistic regression models  b) Route optimization to EVCS based on the distance between each EVCS   1. EV Forecast   Notebook  a) Aus EV sales forecasting using Linear regression model and time series model   1. EVs US   Notebook  a) Aus EVCS data analysis  b) EVCS data analysis US vs Canada   1. EVCS in Greater Melbourne based on POI with Map   Notebook  a) foursquare api to extract point of interest from the map  b) EVCS Melb point of interest clustering to recommend new EV charging station | 1)  Cleaned\_Australian\_EV\_Charging\_Stations.csv  Predicted Cluster level on test data.csv  2)  Australian electric vehicle sales (2011 to 2021).csv  3)  Cleaned\_Australian\_EV\_Charging\_Stations.csv  EVCS-location-US-Canada.csv  4)  **Greater\_Melbourne.csv**  **new\_location.csv** |