In this day and age, municipalities can no longer afford to ignore digital technologies in order to enhance performance, well-being, and engagement with citizens. Whether it is through energy, transport, water, health care, or waste, the transition from city to smart city lies in the intelligent use of public data and machine learning to enhance Public Services. Find out how cities are transitioning from average city to smart city with DSS.
Predict Parking Space Areas
Reduced time to find parking

Challenge
Design a Powerful Parking Availability Prediction B2C Application
Parkeon has access to considerable volumes of data regarding the habits of city drivers. Parkeon wanted a solution that could help them:
• Build an app with reliable predictions of parking availability
• Enrich the parking meter data to create greater intelligence

Solution
Turn Parking Meter Data and Geolocalized Data into Predictions
Using Data Science Studio, Parkeon built a mobile application that predicts zones where drivers are more likely to find parking. Despite a simple interface, the app uses state-of-the-art predictive algorithms. The technology uses millions of transactions coming from parking meters every day and combines them with geographical data coming from the open source OpenStreetMap (e.g. points of interest like restaurants and shops).
• Streets are divided into segments and enriched with varying information such as the surrounding points of interest
• Data coming from the parking meters are cross-checked with street segments and points of interest

Results
Predict areas where driver will be able to park
Since they developed the app “Path to Park” with DSS, Parkeon is able to propose a simple and intuitive example of a modern data product. It uses and enriches machine data and predictive algorithms in a Big Data environment and is packaged in the user-friendly wrapper of an iOS app. Since the predictive algorithm developed with DSS is embedded into the app, Parkeon can:
Predict parking availability in each street according to parking meter data and points of interest data
Use their data to develop and refine predictive models that put drivers in the right place at the right time
Scaling with the growth of the app thanks to machine learning and hybrid architecture

“We appreciate Data Science Studio’s capacity to handle important volumes of data, and the tool’s openness towards the functioning of the algorithms.“

Yves-Marie Pondaven
CTO – Parkeon
Park meter and Geographical Data

Predict 3 parking options around the driver’s location

More than 80% probability for drivers to find a parking spot in near vicinity

**Fast iteration** enabling tests & improvements of the predictive algorithm

**Easy scalability** to extend the product to several cities

Built by Parkeon

Powered by DSS

**Technology**

- Python
- Amazon Redshift
- PostgreSQL

**Time**

- Calendar icons

**Team**

- Person icons

**Models**

- K-means clustering
- Gaussian Mixture Model
- Mean Shift
- DBSCAN