Abstract:

Searching for parking spaces on the street causes a significant part of the urban traffic and results in extra costs for the drivers in terms of time and fuel consumption. Existing approaches to predict the availability of parking spaces have significant drawbacks as they are either expensive or rely on the users’ information. This article deals with the prediction of the parking situation based on publicly available data that can be accessed cost-efficiently. Suitable categories of data are identified based on a literature review. Subsequently, a prototypical system that employs a neural network is implemented. The relevance of the different categories of data is evaluated based on 2,779 real world records. The results show that weekday, time of the day, location, and temperature have a significant impact on the prediction; whereas events, traffic, vacation time and rainfall are only of secondary importance. This article categorizes existing solutions to support finding parking spaces and shows that publicly available information can provide a good starting point for the prediction of the availability of parking spaces.