World Academy of Science, Engineering and Technology
International Journal of Urban and Civil Engineering
Vol:14, No:04, 2020

Modeling Food Popularity Dependencies Using Social Media Data

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Abstract : The rise in popularity of major social media platforms have enabled people to share photos and textual information about their daily life. One of the popular topics about which information is shared is food. Since a lot of media about food are attributed to particular locations and restaurants, information like spatio-temporal popularity of various cuisines can be analyzed. Tracking the popularity of food types and retail locations across space and time can also be useful for business owners and restaurant investors. In this work, we present an approach using off-the shelf machine learning techniques to identify trends and popularity of cuisine types in an area using geo-tagged data from social media, Google images and Yelp. After adjusting for time, we use the Kernel Density Estimation to get hot spots across the location and model the dependencies among food cuisines popularity using Bayesian Networks. We consider the Manhattan borough of New York City as the location for our analyses but the approach can be used for any area with social media data and information about retail businesses.

Keywords : Web Mining, Geographic Information Systems, Business popularity, Spatial Data Analyses
Conference Title : ICSCP 2020 : International Conference on Smart City and Performance
Conference Location : Boston, United States
Conference Dates : April 23-24, 2020