Statistical analysis of Jersey City bike sharing data using spatio-temporal models

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Abstract

Is it possible to predict how many bikes to place at a pickup station to optimize the bike sharing service? Starting from 2020 Jersey City (NYC) bike staring data, the aim of this study is to find an answer to this question estimating three different spatio-temporal models. The historical weather data (and not only) will try to explain the daily (and hourly) number of pickups at a station in order to help the service provider in its planning.

Keywords: bike sharing, DCM, HDGM, f-HDGM, D-STEAM.

1 Dataset description

PN: to write together.

2 Scientific questions

PN: to write together.

3 Methodology

3.1 DCM

PN: for Alessandro.

3.2 HDGM

PN: for Nicola.

3.3 f-HDGM

PN: for Lorenzo.

4 Data analysis

4.1 DCM

PN: for Alessandro.

4.2 HDGM

PN: for Nicola.

4.3 f-HDGM

PN: for Lorenzo.

5 Results comparison

PN: to write together.

6 Conclusions

PN: to write together.