



Contribution ID: 14

Type: not specified

Can DBSCAN Be Improved by Robust Preprocessing?

Tuesday, 27 June 2023 10:10 (20 minutes)

In this presentation, we investigate the performance enhancement of the DBSCAN algorithm through robust preprocessing techniques. We explore the impact of data whitening, geometric median, and the pursuit method for variable selection and estimation in high-dimensional models. The use of these techniques, including the estimators of scale S_n and Q_n introduced by Rousseeuw and Croux, provide robustness to outliers and promote sparsity for improved model interpretability. We present the results and comparisons on a testing dataset to showcase the effectiveness of this combined approach as a robust preprocessing step for DBSCAN.

Primary author: THIELE, Jan

Presenter: THIELE, Jan

Session Classification: Stochastic monitoring control