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Semi-Supervised Time Series Classification on Positive and Unlabeled Problems Using Cross-Recurrence Quantification Analysis

Lucas de Carvalho Pagliosa, Rodrigo Fernandes de Mello

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Highlights

- We show along this article that local differences enhanced by noise and mean-valued observations mislead classification when time-domain simi- larity measurements such as ED, DTW, DTW-D and MDDL are used. In addition, they lead to inconsistent classification due to the noise level.
- We propose the use of CRQA to improve semi-supervised classification on PU scenarios, specially on datasets containing recurrent observations (typically observed in real-world phenomena);
- Results show that CRQA has achieved better classification performances while classifying semi-supervised time series using the 1NN approach;

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