## Approximate Similarity Search for Time Series Data Enhanced by Section Min-Hash

Ryota Tomoda, Hisashi Koga University of Electro-Communications, Tokyo, Japan An algorithm for approximate nearest neighbor search based on the DTW distance

Bag-of-Sketch

 $X_2$ 

 $X_3$ 

Χ

 $X_1$ 

Quantizes time series subsequences based on the Euclidean distance

Extract subsequences from all time series data and cluster them with the k-means method

 $X_1$ 

*X*<sub>2</sub>

Section Min-Hash

Bag-of-Sketch **- 1** , **3** , **2** , **3** 

To prevent matching subsequences temporally far apart

 $X_4$ 

Hash values are chosen from the same time section for any time series

