

中央研究院統計科學研究所 學術演講

講 題：Classification of Temporal Data Using Dynamic Time
Warping and Compressed Learning

演講人：黃士峰教授

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時 間：2019年8月12日（星期一）上午10:30-12:00

地 點：中央研究院統計科學研究所6005會議室(環境變遷研究大樓A棟)

※茶 會：上午 10：10 開始

Abstract

This study proposes an algorithm combining the dynamic time warping (DTW) and compressed learning (CL) techniques for temporal data classification.

The DTW is used to address nonsynchronous effects in multiple temporal data for determining an adequate reference trajectory. The CL is employed to represent the temporal data effectively and classify the data efficiently by cooperating with the reference trajectory. By applying the proposed algorithm and four other classification methods to several data sets, the proposed algorithm is shown to have satisfactory classification accuracies within a reasonable time. According to this advantage, the proposed algorithm is extended to establish an online monitoring system to detect different types of cardiac arrhythmia. The numerical results indicate that the online system is capable of obtaining accurate recognition results.

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