Lingnan University 嶺南大學 香港 Hong Kong

School of Data Science
數據科學學院

POSTGRADUATE SEMINAR SERIES

Topic Defence Seminar

Topic Title: **Deep learning approach for industrial process modeling and monitoring**

Presenter:

Mr. Li Jicheng

PhD student, School of Data Science

Abstract :

With the ever-expanding scale of modern industrial systems, process modeling and monitoring are becoming increasingly crucial for reducing production costs, enhancing product quality, and improving safety. Traditional statistical techniques such as principal component analysis (PCA), partial least squares (PLS), and canonical correlation analysis (CCA) have been widely studied and practiced for process modeling and monitoring. However, with the rapid development of modern industries, industrial systems have become more complex, and the collected process data now exhibit high-dimensional, nonlinear, and dynamic characteristics. Traditional statistical methods struggle to capture the useful information from the complex process data. In recent years, deep learning methods have achieved great success in image processing, speech recognition, and natural language processing, and have attracted wide attention in the process industries. This study will explore and dissect deep learning approaches, particularly recurrent neural networks and attention-based networks, for process data modeling and monitoring. Several industrial case studies are conducted to demonstrate the effectiveness of the proposed deep learning models.

Date : 17 June 2024, Monday
Time : 8:30 am – 11:30 am
Venue : SEK106, 1/F, Simon & Eleanor Kwok Building
Language : English

*** All are Welcome ***

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Due date: 18 June 2024