

國立中興大學 應用數學系 學術演講

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講題：

機器學習與應用數學：智慧分類器設計與應用

Machine Learning and Applied Mathematics for Design of Intelligent Classifiers and Their Applications

摘要：

Recently, artificial intelligent (AI) techniques have been developed and then widely applied in diverse real-world research fields. Machine learning (ML) is a branch of AI, which belongs to the area of weak AI. The methodology of ML mainly focuses on learning from data while building models for data analysis. Up to now, lots of remarkable results of AI come from the outcomes of utilizing machine learning for developing intelligent systems. Artificial neural network (ANN) is a subfield of ML. ANN with learning algorithms have readily applied in constructing models by learning from data. Many fundamental mathematics have been applied in the developments of learning algorithms such as Calculus, Linear Algebra, Probability and Statistics. Consequently, this talk, first, introduces what topics of mathematics are applied in developing learning algorithms for ANNs on the design of intelligent classifiers based on learning from data. These algorithms include learning algorithms for perceptrons, multilayer perceptrons (MLP), support vector machine (SVM). Subsequently, it addresses how to apply intelligent classifiers and mathematics in the design of nearly optimizing an intelligent image classification scheme. Finally, the talk shows the differences between traditional ANNs and deep learning models while exploiting them in devising intelligent classifiers, and two systems based on convolution neural network (CNN) of deep learning, an interactive response system (IRS) based on face-gesture recognition and a content-based image retrieval (CBIR) system.

時間：109年7月22日(三) 下午2時

地點：資訊科學大樓 501 室

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