中央研究院 資訊科學研究所
Institute of Information Science, Academia Sinica

Distinguished Lecture Series

Machine Learning Revisited

Tuesday, Oct 3, 2017 10:00am
Auditorium 106

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Abstract

Machine learning using neural networks is the rage of computer science. It is estimated that a large proportion of all computing cycles are consumed by machine learning applications. Even with parallelization and special processors, training is time consuming and laborious. A large application could take days and weeks to complete the training process. The central theme of this talk is to examine ways in which computation time might be reduced.

We shall present a standard model for neural networks, but with a special interpretation of back propagation, and pose three questions: (a) What can one say about the training samples at the outset that might shed light on the training process? (a) How do we assess the hidden layers during the course of training? (c) What are some of the ways by which computation complexity and time might be reduced? Some preliminary results in answering these questions will be presented.

Finally, if time permits, some experiences using XCEL as a prototyping platform in machine learning will be discussed.

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