INSTITUTE OF MATHEMATICAL SCIENCES
UNIVERSITI MALAYA

MONTHLY RESEARCH SEMINAR SERIES (2/2022)

Title: Optimal Performance Evaluation Metrics in Discrete Artificial Neural Network Analysis

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Date: 28/01/2022 (Friday)

Time: 3.00 pm – 4.00 pm

Platform: Google Meet
Google Meet joining info
Video call link: https://meet.google.com/nyb-npof-bwb
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ABSTRACT

The performance metrics are essential in assessing the computational performance and the quality of the solutions of any artificial neural network or machine learning pipeline. The performance measures and the quality assessment of the final neuron states for Satisfiability logic programming in any variant of Discrete Artificial Neural Network are significantly dependent on the optimal selection of the performance evaluation metrics. The current performance measures were mostly leveraging the computational time, absolute error, mean squared error, loss function, and goodness of fit measures. Therefore, to assess the learning capability of a neural network model, the optimal performance metrics are adopted in measuring the quality of the final states of the neuron and the possible interpretations obtained by the network when dealing with the different number of clauses of Satisfiability logic. The core impetus of this study is to investigate the effects of various performance evaluations metrics towards the performance analysis based on the learning error, similarity analysis, and energy analysis. Overall, the simulation results have revealed the significant impact of various performances. This finding will assist the neural network practitioners in evaluating the capability of their approach or model in more holistic perspectives.

All are Welcome