Analisa metode optimasi levenberg marquardt pada jaringan saraf tunggal dan ensemble untuk sistem pengenal pola = Analysis of levenberg marquardt optimation method for single and ensemble neural network for pattern recognition system

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Abstrak

Dalam beberapa tahun ini, telah banyak penelitian mengenai pengenalan pola yang dilakukan dengan jarigan syaraf tiruan. Skripsi ini membahas sistem pengenalan pola berbasis Jaringan Saraf Tunggal (JST). Penelitian ini membahas metode pembelajaran Levenberg Marquardt dalam melakukan pengenalan pola. Terdapat 9 dataset pola, 8 dataset dari "UCI Repository of Machine Learning Database" dan satu set dari data uranium dioxide pellet. Prosedur kerja sistem terdiri dari tahap pra-pemrosesan, pelatihan, dan pengujian.

Hasil pengujian yang ditinjau dari computational cost dan recognition rate menunjukkan JSE berbasis metode Levenberg Marquardt memberikan performa yang lebih baik dibandingkan JST berbasis metode Levenberg Marquardt atau Backpropagation.

.....In recent years, many people have been working on pattern recognition using artificial neural network. This bachelor pra-thesis discuss about pattern recognition system based on Single Neural Network (SNN). This research discuss about Levenberg Marquardt learning algorithm in pattern recognition.There are 9 datasheets used in this experiment, which 8 of them are obtained from "UCI Repository of Machine Learning Database" and and one dataset of uranium dioxide pellet. The working procedures of the systems consists of pre-processing, training, and testing stages.

The testing result, which is measured from computational computational cost and recognition rate, shows that ENN based on Levenberg Marquardt learning algorithm has a better performance than SNN based on Levenberg Marquardt or Backpropagation.