

ABSTRAK

Penelitian ini bertujuan untuk mengetahui dan menganalisis pengaruh *Convolution Neural Network* (CNN) dengan *Recurrent Neural Network* (RNN) Terhadap *leadership* dan *workforce agility* pada Program Pascasarjana UMSU menggunakan aplikasi RapidMiner. Sampel dalam penelitian ini diambil dari rekap kehadiran dosen pascasarjana UMSU sebanyak 202 data Dosen Pascasarjana UMSU.

Convolutional Neural Network (CNN) adalah pengembangan dari *Multilayer Perceptron* (MLP) yang didesain untuk mengolah data dan mengklasifikasikan data tersebut. *Recurrent Neural Network* (RNN) adalah arsitektur jaringan saraf tiruan yang telah terbukti berkinerja baik karena pemrosesannya disebut berulang kali untuk memproses input data sekuensial. Pada penelitian yang dilakukan Sugiharto et.al diketahui metode Recurrent Neural Network memiliki tingkat akurasi sebesar 65% dengan nilai rata-rata macro precision sebesar 0,59, nilai rata-rata macro recall sebesar 0,62 dan nilai rata-rata macro F1-score sebesar 0,60; serta nilai rata-rata terbobot precision sebesar 0,67, nilai rata-rata terbobot recall sebesar 0,65 dan nilai rata-rata terbobot F1-score sebesar 0,65. maka dapat disimpulkan akurasi metode CNN memiliki hasil sebesar 100% dan metode RNN sebesar 86.63%, Hasil dari prediksi metode CNN memiliki hasil Baik sebanyak 141 dan hasil metode RNN sebanyak 135 dan Dapat disimpulkan bahwa metode CNN sangat berpengaruh terhadap *Leadership* Dan *Workforce Agility* dengan persentase sebesar 100%.

Kata Kunci : *Organizational Agility, Leadership, Workforce Agility, Deep Learning, RapidMiner.*

ABSTRACT

This research aims to determine and analyze the influence of Convolution Neural Network (CNN) with Recurrent Neural Network (RNN) on leadership and workforce agility in the UMSU Postgraduate Program using the RapidMiner application. The sample in this study was taken from a recap of the presence of 202 UMSU postgraduate lecturers, data from UMSU Postgraduate Lecturers.

Convolutional Neural Network (CNN) is a development of Multilayer Perceptron (MLP) which is designed to process data and classify that data. Recurrent Neural Network (RNN) is an artificial neural network architecture that has been proven to perform well because its processing is called repeatedly to process sequential input data. In research conducted by Sugiharto et.al, it was found that the Recurrent Neural Network method had an accuracy level of 65% with an average macro precision value of 0.59, an average macro recall value of 0.62 and an average macro F1-score value. of 0.60; and the weighted average precision value is 0.67, the weighted average recall value is 0.65 and the weighted average F1-score value is 0.65. So it can be concluded that the accuracy of the CNN method has a result of 100% and the RNN method is 86.63%. The prediction results of the CNN method have a good result of 141 and the results of the RNN method are 135. It can be concluded that the CNN method is very influential on Leadership and Workforce Agility with a percentage of 100%.

Keywords: *Organizational Agility, Leadership, Workforce Agility, Deep Learning, RapidMiner.*