

Abstract

Universities conduct tracer study surveys with their alumni to gather data about their work readiness. Even though work readiness is considered one of the most important indicators to measure the quality of universities based on their graduates, the survey results are not directly beneficial for the alumni since they have already left the university. Therefore, predicting student work readiness before they graduate allows the university to improve the readiness of students who need it. This research explores the use of machine learning methods, specifically Recurrent Neural Networks (RNN), to predict student work readiness. To conduct this research, several academic and non-academic alumni survey attributes were used. Evaluation result shows strong performance, with the RNN achieving 98.60% accuracy, 97.65% precision, 99.60% recall, and 98.61% F1-score compared to the model results comparing the performance of the RNN model with the ANN model. As a result, ANN achieved 49.80% accuracy, 50.10% precision, 50.30% recall and 50.20% f1-score. This outperforms other research that achieved an accuracy of 91.53% using Naïve Bayes, 74.51% using Decision Tree, 53.90% using MLR, and 48.50% using Random Forest. This evidence demonstrates that RNN achieves a higher level of accuracy in predicting work readiness when compared to other models. This superiority underscores the effectiveness of RNN in this context. This study contributes to the development of work readiness prediction models that are more accurate than previous models and paves the way for further applications of RNN's in the field of education and work readiness evaluation.

Keywords—RNN, ANN, Work Readiness, Prediction