Abstract

Machine learning methods have been implemented to perform prediction and classification tasks across various domain due to their superior time and cost efficiency compared to human expertise. This research employs such methods to predict student work readiness, which result is beneficial to assist universities to profile students and design career preparation programs tailored to their readiness level. The methods utilized in this research include Decision Tree and K-Nearest Neighborhood (KNN) classifiers. The confusion matrix demonstrates the applicability of these methods in predicting student work readiness. The KNN model, with k = 9, achieves accuracy of 97.50%, 96.90%, 96.80%, 97.60%, 95.80%, 97.00%, and 97.20%. On the other hand, the Decision Tree model achieves 98.60%, 98.80%, 98.90%, 98.70%, 98.60%, 98.70%, and 99.50%. Therefore, based on the given dataset of 6823 students, the Decision Tree model slightly outperforms KNN in predicting student work readiness.