

Thesis Title	Human Posture Classification Using Kinect
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Abstract

In this research, we proposed a method for a real-time human posture classification using 3D skeleton data streaming from Kinect camera. The data mining techniques were used to classify the postures. We selected 4 learning algorithms namely: neural network, naïve Bayes, logistic regression, and decision tree, for learning our data to compare and find the appropriate learning algorithm. Three types of training sets were used in our experiment, including Kinect's raw skeletal training set, skeleton with data selection training set, and with data transformation training set. Two models were used in our experiment. The first model was single-stage classifier model that used only one model to classify all postures, and the second model was multiple-stage classifier model that partitioned model into multiple models working together. We then compared the capability of posture classifications between both models.

Keywords: Postural classification / Kinect camera / Data mining / Data complexity reduction / Human skeleton tracking