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Extracting features of finger bending signal based on parameter of polynomial

Abstract

Glove based device has outstandingly archive successfully in nowadays especially in industries, virtual reality, and medical. DataGlove is an interactive device, resembling a glove worn on the hand used to capture physical data such as bending of fingers. GloveMAP are recent dataglove prototype aimed at obtaining signal information of finger movements.By manipulating data outputted from the dataglove, numerous applications for the purpose of HCI could be designed. Input data from dataglove usually continues with time domain which resulting the algorithm is too large to be processed. Thus, dataglove input data need to be transformed into a representation set of features. Transforming the input data into the set of features is called feature extraction. In this research, feature extraction technique is proposed to represent bending signal outputted from the dataglove. Polynomial regression is utilized as the feature extractor. The experimental results show that the parameter from the polynomial could be used as features for the bending signal of the dataglove.

Keywords — DataGlove, Human-Computer Interaction (HCI), polynomial regression