

## **CHAPTER VII**

### **CONCLUSION AND SUGGESTION**

#### **7.1 Conclusion**

From the research that has been conducted can be summarized the following conclusion :

1. Speaker-dependant dysarthric speech classification model using CNN with SVM has been successfully conducted.
2. The CNN with SVM model proved better average of classification accuracy with 8% higher than CNN with Softmax.

#### **7.2 Suggestion**

There are several limitations that cannot be applied in this research. These limitations are considered to suggest the improvement for next research.

1. Improving data variation and size. This research has low variation of data since it only consist of 3 repetition with 7 different microphones. More variation of data can represent real world problem and has rich of information to be extracted, hence can leads to better prediction accuracy.
2. Improving word recognition. This research only limit 10 digit words to be trained and predict. However, improving words vocabularies can help tackle the real world problem to be recognize dysarthric speech.
3. Trying different CNN architecture model, for example by enhancing fully-connected layer or convolution layer since deeper layers leads to better training accuracy. This research only use single pair of convolution and pooling layer, and a single fully connected layer. However, many improving the depth of layer will increase the accuracy and lower the loss rate.

4. Trying with higher GPU capacity. To train larger dataset and deeper layers, it may takes long time. Hence, trying larger GPU capacity will faster the training operation.