Hello, everyone! I am Kaiqi Wang, from group 4. Today, I’m going to talk about “The Impact of Vocabulary Size and Language Model Order on Speech Recognition”. This study is based on Russian speech recognition model.

First of all, I would like to introduce the background of our study. Nowadays, the Automatic Speech Recognition systems are commonly used. One can find them in smart houses, in cars, as well as TV navigation. There is a growing need to use the speech recognition systems. The aim of this study is to find out how do vocabulary size and language model order affects speech recognition.

In this study, we have performed several experiments for normal speech. Here is the result. We can see that enlarging vocabulary size leads to the decrease of speech recognition accuracy. We can also note that the increase of LM order influences positively on the speech recognition accuracy. The greatest increase is visible between 1st and 2nd LM orders. Let’s remove the 1st LM order, the increase between 2nd and 3rd LM orders is much smaller. The improvement for the 4th LM order is noticeable only for very large vocabularies.

Therefore, we can draw a conclusion. Vocabulary size negatively affects the speech recognition quality. The increase of LM order influences positively on the speech recognition quality. And the best choice will be the model of 3rd order.