Automated Response Messaging System

CS: Machine Learning

Ostap Kharysh, harysh@ucu.edu.ua ; Olha Bakay, bakay@ucu.edu.ua

Problem

People are overwhelmed with daily routine tend to make similar quick responses in their messengers and lose valuable time throughout the day. It seldom happens to text specific responses, so other replies should take no time at all.

Idea

Create a system which will decrease user's amount of time spent on answering similar questions, by detecting a type of question and making context-based predictions for answers.

Acceptance criteria

The system determines correctly a type of questions at least 9 out of 10 times. The user uses autocomplete with predicted answer at least 5 out of 10 times.

Approach

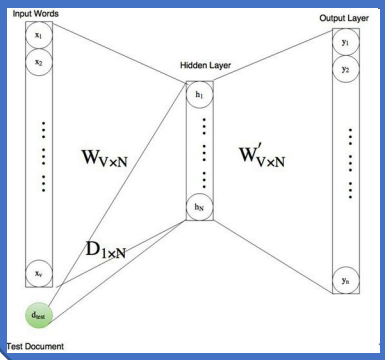
With the help of machine learning models and neural networks, teach the system accurately define types of question and basing on Markov model, make predictions for user's answers.

Challenges

- Gathering and preparing data;
- Make correct detection of type of a question;
- Suggest clever predictions for answer.

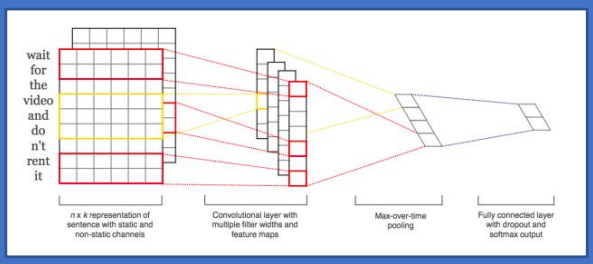
Solution

WordToVec



+ Markov chain +

CNN



Result

We achieved the level of 60% accuracy in yes/no and open-ended question type predictions and expect to achieve 65-80% with CNN working.

Remaining work

- Make predictions more accurate;
- Create universal dataset for users at the beginning of using;
- Design LSTM