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CPS 480

Final Project Proposal

Individuals working on project:

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Description:

The intention of this project is to create a conversational chatbot that uses deep learning techniques to emulate realistic human responses. Ideally, this chatbot could be used as a way to pass time or engage in simple conversation, and provide entertainment through its learned responses. This approach differs from seemingly similar projects (Amazon Echo & Google Home) that work as intelligent assistants, instead, the aim here is to engage in conversation with a system that is trained to speak from a specific data set.

By using Google’s TensorFlow APIs to facilitate actual learning, and by using open-source text-to-speech and NLP (natural language processing) technologies, a chatbot can be constructed in a way so that one may speak to it in English via a microphone, and a response may be read back by the use of speakers. In addition, both a chat log and an internet search feature will be available on a companion Android mobile application, to be used in tandem with the chatbot software.

Goals:

1. A problem to solve

2. High quality of coding or graphical representation

3. 2 Page document that explains previous work in this area and demonstrates how your approach is a new one.

4. Project that correctly starts and ends – Your project must always run. If there is a stopping point, it should bring the user back to a menu or restart. It should never “go black”

5. Video of project

6. This project will be able to run on a portable system.

7. The device will send Data from the speech to a Server.

8. We will have a companion Android Application that the user can view their conversations and searches.

9. A Server that directs the the information passed from the device to the Android Application.

10. The device would not respond to the user unless prompted with its “Wake Word”

Expectations:

The primary anticipation is to create a device that is able to be spoken to, and will provide a relevant audible response. This chatbot could then be used to provide a form of simple conversation.

Secondary and tertiary expectations are to integrate a complimentary android app that enables one to see the ongoing conversation being had with the chatbot, and also to receive search query results online.

Concerns & Questions:

* As this is a group project – and the scope of the project is already large – the breadth of technologies needed for this project are fairly sizable, and could represent a challenge for two individuals.