CS 4740 – NLP

Team Members: Michas Szacillo (mas744), Alexandra Ward (amw349), Brandon Sweezer(bas329), and Abiy Tibebu (agt33)

Project 3 Proposal

Baseline System:

For the baseline, we decided to simply use a Random Guess model. To do this, instead of simply returning a random word from the given paragraph, we decided to use IOB tags to make the list of possible words to return smaller and more accurate. To do the IOB classification, we decided to use the CRF-sklearn package, which we have gotten from the previous project.

Our decision to use random guess is mostly so that we have an extremely simple model to start from, but to also start gaining intuition on the QA problem itself. However, we did go a step further than returning just a random word or phrase, since we are classifying the paragraph contents by IOB tag.

Baseline Results:

|  |  |
| --- | --- |
| Exact Match | F1-Score |
|  |  |

Proposal:

To begin, we plan on trying some more simple models such as the Window Sliding model used in the critique article. We also plan on playing around with tagging systems to make picking out the answers in the paragraph easier (for example POS tags, or IOG tags). As we continue to improve our model, we will look into possible linguistic NP filters as well, since we know that most of the answers to the questions are phrases and not just words.

Similarly, we plan on classifying question types and semantic class types so that we can narrow down the possible answers even further to a corresponding return type (e.g. Person, Place, etc).

Neural networks?

Group Contribution:

Brandon:

Alexandra:

Michas:

Abiy: