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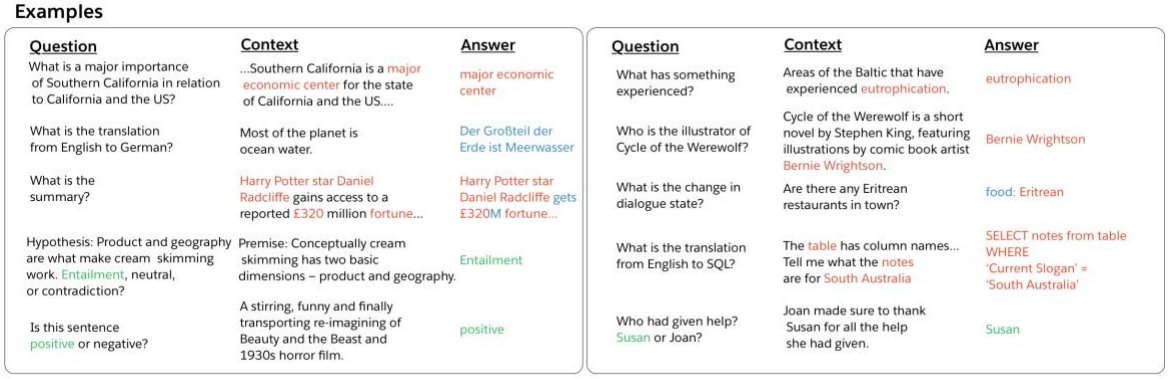
Examples



Question	Context	Answer
What is a major importance of Southern California in relation to California and the US?	...Southern California is a major economic center for the state of California and the US....	major economic center
What is the translation from English to German?	Most of the planet is ocean water.	Der Großteil der Erde ist Meerwasser
What is the summary?	Harry Potter star Daniel Radcliffe gains access to a reported £320 million fortune...	Harry Potter star Daniel Radcliffe gets £320M fortune...
Hypothesis: Product and geography are what make cream skimming work. Entailment, neutral, or contradiction?	Premise: Conceptually cream skimming has two basic dimensions – product and geography.	Entailment
Is this sentence positive or negative?	A stirring, funny and finally transporting re-imagining of Beauty and the Beast and 1930s horror film.	positive

Question	Context	Answer
What has something experienced?	Areas of the Baltic that have experienced eutrophication.	eutrophication
Who is the illustrator of Cycle of the Werewolf?	Cycle of the Werewolf is a short novel by Stephen King, featuring illustrations by comic book artist Bernie Wrightson.	Bernie Wrightson
What is the change in dialogue state?	Are there any Eritrean restaurants in town?	food: Eritrean
What is the translation from English to SQL?	The table has column names... Tell me what the notes are for South Australia	SELECT notes from table WHERE 'Current Slogan' = 'South Australia'
Who had given help? Susan or Joan?	Joan made sure to thank Susan for all the help she had given.	Susan

Reference: https://blog.einstein.ai/the-natural-language-decathlon/

IBot enterprises is to build a new Chatbot to showcase their Q&A capabilities. When doing research, they found an interesting research project [2] that covers 10 problem types framed as Q&A. IB ot wants to use a neural networks based approach to conversational agents and has been researching Seq2Seq models and Attention based mechanisms including metrics like Bleau scores. Intrigued by the variety of problems and the possible methods that could be used, they are hiring consulting teams to do the following tasks. The goal is to do research on the topic and build a chatbot that accomplishes the task. Your team has been hired (allocated by team number. See below) to accomplish the following goals.

GOALS

Goal 1: Research

1. Review 4-5 papers for the topic allocated and summarize your findings. (1-page per paper covering data used, methodology, model used, key conclusions)

Goal 2: Prototype implementation

2. Choose a Python based deep learning framework and implement a prototype with a sample dataset to illustrate the methodology. Document your design. You can use [2] for datasets. You don't have to build a full chatbot..You can show how it works in Jupyter or as a separate program.

Goal 3: Performance

1. Compute and comment on how good your model is.

PREPARATION

1. Read [1,2]

MODELING APPROACH

1. You are free to design the application in any python-based framework
2. Do unit tests and show results for at least 10-15 questions in the jupyter notebook.

METRICS

- You will be expected to compute the metrics relevant to the task (if applicable)
- **Discuss how good your model is.**

REPORT

As a consulting company, put together a CLAAT document discussing your research, prototype and project findings and how to use it.

DELIVERABLES

1. Deadline: Friday April 5th 5.00pm
2. Github link with fully functional code with documentation on how to use it.
3. A final report in CLAAT format
4. Jupyter notebook
5. A 5 min video discussing your project loaded to Youtube. Embed the link in your CLAAT report.

REFERENCE

1. https://www.slideshare.net/QuantUniversity/nlp-workshopshare
2. https://blog.einstein.ai/the-natural-language-decathlon/
3. https://pytorch.org/tutorials/beginner/chatbot_tutorial.html
4. https://blog.statsbot.co/chatbots-machine-learning-e83698b1a91e

MODELS & DATA TO USE:

1. Question Answering
2. Neural Machine Translation
3. Topic Summarization
4. Natural Language Inference
5. Sentiment Analysis
6. Semantic Role Labeling
7. Relation extraction
8. Goal-Oriented Dialogue
9. Semantic Parsing
10. Pronoun Resolution
11. Systems available for building chatbots
12. Opensource Chatbot frameworks