

Partisan Responses

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Motivation & Goal

- Significant progress in "controlled" text generation (I.e. producing text that has a certain attribute such as politeness or positiveness)
- The particular wording of a text can reveal the author's political leaning (e.g. what democrats refer to as "estate tax" is called "death tax" by the republicans)
- On certain topics, a republican would answer very differently from a democrat when asked the same question

Goal:

- **Develop a system that produces answers in the style of republicans /democrats while preserving factual information**
- **Study sample of answers in the style of republican, democrat and neutral for the same question, compare slant of the answers vs. slant of the question**

Literature review

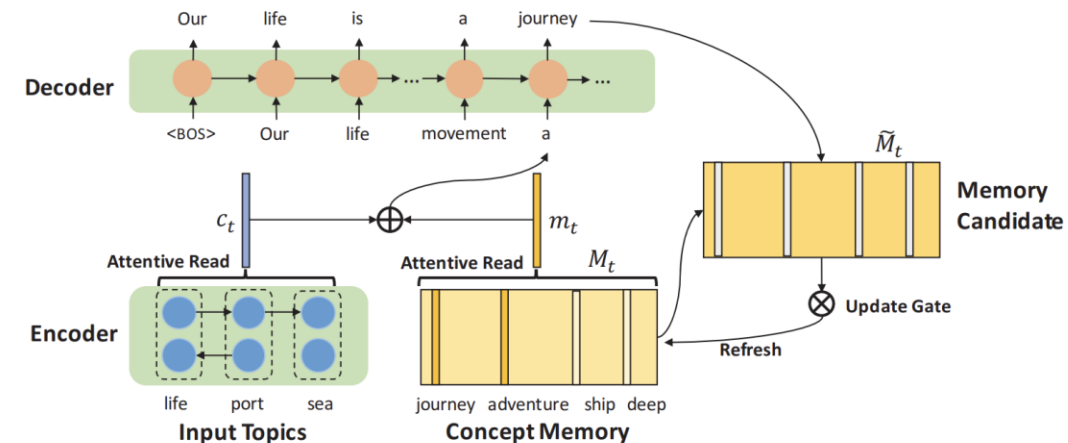
Enhancing an existing knowledge graph ([DBpedia](#)) with ideology-dependent opinions - [Chen et al. \(2017\)](#)

- Lexicon-based approach for inferring opinion scores towards entities identified in text
- Add opinion scores $\{-1, 0, 1\}$ for either negative, neutral or positive) to the triples of the type (subject, predicate, object) from the existing knowledge base
- Integrate both factual and subjective information into a knowledge graph

Improving topic-to-essay generation using knowledge from

[ConceptNet](#) - [Yang et al. \(2019\)](#)

- Integrate commonsense knowledge from ConceptNet into the generator (bidirectional LSTM) using a dynamic memory mechanism
- Attend to the most informative memory concepts for each word (neighbouring concepts in the graph) when decoding
- Adversarial training to improve the quality of the text using a discriminator that evaluates topic-consistency between the input topics and the generated essay

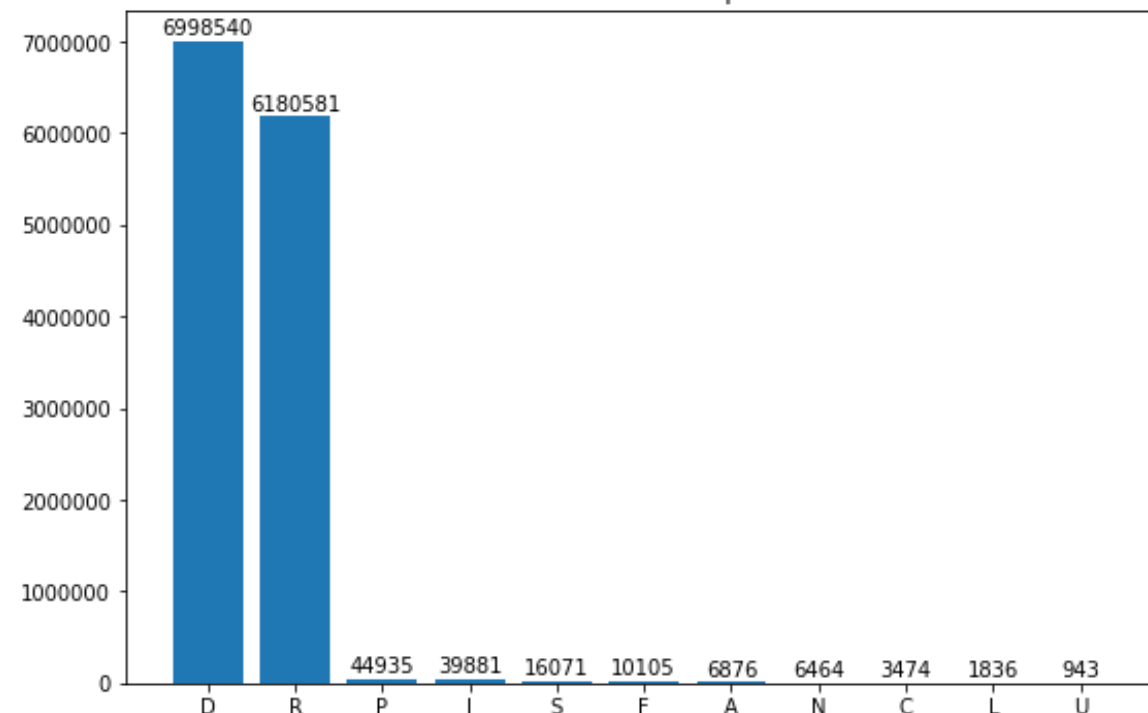


Data Source

- U.S 43rd – 111th Congressional Records (1873 – 2017)
 - Bound¹ Edition (43rd – 111th) and Daily Edition (97th to 114th)
 - Bound edition is a permanent version organized from daily edition
 - 13,309,706 speeches and 11 parties
 - Sample Speech
 - Sample questions
 1. 'Is it a coincidence that 85 percent of the **spending** so far in this election has been on behalf of Republicans?'
 2. 'is cooperating with the **Taliban** against our troops in Afghanistan?'
 3. 'What is going to be the effect on seniors who are in **Medicare**?'

¹ All statistics are collected from bound edition and sample from the 111th bound edition

Bound Edition Partisan Speech Distr



Mr. **Chair PERSON** . I rise **today DATE** in opposition to the **Senate ORG** amendment to the **House ORG** amendment to the **Senate ORG** amendment to the bill H.R. 4853 Tax Relief. **Unemployment Insurance Reauthorization ORG** . and **Job Creation Act LAW** of **2010 DATE** . I believe it is important that we extend the so-called **Bush PERSON** tax cuts for everyone while our economy is still struggling to recover. and as long as we can pay for it. This bill as presented to **the U.S. House ORG** does not meet that test. I am especially disappointed in the provision on the estate tax. I cannot in

"Estate tax"

As we complete the thought that we've been talking about, these were all things that didn't just happen by accident. This was in legislation. We are not talking about the previous administration. The word "inherited" seems to be thrown around a lot here. The same people that support the death tax seem to be trying to say they inherited every problem that exists. And there sure is blame to go around from people in **years past DATE** . but we don't have time to talk about the past. What we do have time to talk about is what is happening **today DATE** . In the stimulus bill that everyone here **tonight TIME** is talking about.

"Death tax"

Methods I

- Get partisan graphs from data
 - Preprocess data (cleaning, stop words, tokenize, cut too little used)
 - Build knowledge graph based on data [\(according to Using Local Knowledge Graph Construction to Scale Seq2Seq Models to Multi-Document Inputs\)](#)
 - Create entity scores for both parties [\(according to Opinion-aware Knowledge Graph for Political Ideology Detection\)](#)
- Get correct nodes from question
 - Build a searchable database for speeches (tf-idf)
 - Extract important words from question (Transformers)
 - Get adjacent speech(es) (cosine similarity)
 - Answer question based on speech(es) (Transformers)
 - Extract important words from answer (+ question) (Transformer)
 - Find nodes of these words (Graph)

Methods II

- Generate response in republican/democrat/(neutral) slant
 - Start with Transformer's answer as seed
 - Traverse (partisan) graph to generate response ([according to Enhancing Topic-to-Essay Generation with External Commonsense Knowledge](#))
- Measurements/ adversaries
 - Partisan classifier of generated (SVC/BERT)
 - Human vs generated (Sampled)
 - Random vs generated (Sampled)
 - BLEU/[GREAN](#)