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IMPLICIT MEMORY, ALEXA AI

ABSTRACT

Conversational Question Answering has come into the spotlight in recent times, as the latest challenge in NLU and Semantic Parsing. With the release of large datasets like SpokenSQuAD, CoQA and Natural Questions we have been provided with a testbed to come up with models to tackle this. However, most of the top performing models are not practically feasible and have large inference times, while also being sensitive to structured noise present in text. We explore one such structured noise in terms of ASR that is seen in all modern voice assistants. In this work we present a study of the best performing technique in Conversational QA, and how it performs under noisy conditions. We also explore the effects of noise at different turns of the conversation and some ways to deal with it. Through this problem, we have also been able to form a dataset for Noisy Conversational Question Answering (N-CoQA).

PROBLEM

➤ Formalism:

Given a story, S and a set of questions $\{q_1, \dots, q_n\}$ answer the k^{th} question by having access to the story and the previous $k - 1$ questions

Jessica went to sit in her rocking chair. Today was her birthday and she was turning 80. Her granddaughter Annie was coming over in the afternoon and Jessica was very excited to see her. Her daughter Melanie and Melanie's husband Josh were coming as well. Jessica had ...

Q₁: Who had a birthday?

A₁: Jessica

R₁: Jessica went to sit in her rocking chair. Today was her birthday and she was turning 80.

Q₂: How old would she be?

A₂: 80

R₂: she was turning 80

Q₃: Did she plan to have any visitors?

A₃: Yes

R₃: Her granddaughter Annie was coming over

Q₄: How many?

A₄: Three

R₄: Her granddaughter Annie was coming over in the afternoon and Jessica was very excited to see her. Her daughter Melanie and Melanie's husband Josh were coming as well.

