Semantic Parsing for Task Oriented Dialog using Hierarchical Representations

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Abstract

Task oriented dialog systems typically first parse user utterances to semantic frames comprised of intents and slots. Previous work on task oriented intent and slot-filling work has been restricted to one intent per query and one slot label per token, and thus cannot model complex compositional requests. Alternative semantic parsing systems have represented queries as logical forms, but these are challenging to annotate and parse. We propose a hierarchical annotation scheme for semantic parsing that allows the representation of compositional queries, and can be efficiently and accurately parsed by standard constituency parsing models. We release a dataset of 44k annotated queries (http://fb.me/semanticparsingdialog), and show that parsing models outperform sequence-to-sequence approaches on this dataset.

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