Building Effective Goal-Oriented Dialog Agents

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Motivation
Recent progress has seen an explosion in dialog systems, including Voice activated bots (such as Siri), text based chatbots (such as those on Slack), and Email-based bots for scheduling meetings (such as Calendly). The prevalence of such personal assistants continues to grow, however too few of these so-called intelligent agents fulfill expectations. Consequently, the goal of this project is to study various dialog agents across a variety of tasks:
- Complain - buy or sell an item on Craigslist for highest price possible
- Deal or No Deal - negotiate for points from shared pool of items
- Open Movie - discuss anything about movies with another user
- Mutual Friend - two agents collaborate to identify a common friend

We find that rule-based methods often perform quite well and pinpoint strategic areas of improvement for neural-based goal-oriented systems.

Amazon Mechanical Turk

Data Collection

Amazon Mechanical Turk

Models

Mutual Friends

LSTM based neural networks

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