ParlAI: A Dialog Research Software Platform

Alexander H. Miller, Will Feng, Adam Fisch, Jiasen Lu, Dhruv Batra, Antoine Bordes, Devi Parikh and Jason Weston
@ Facebook AI Research
2018

Presenter: Derrick Blakely

Department of Computer Science, University of Virginia
https://qdata.github.io/deep2Read/

Why they created ParlAI

1. Make it easier to research and develop dialog systems end-to-end; from obtaining training data to replicating existing work

2. Standardize dialog system development

3. Move the field towards *general-purpose* dialog and away from specialized models

What is ParlAI?

- Imagine a classroom setting:
  - The teacher has questions from a question bank relating to a particular task
  - Teacher poses questions to a learner
  - The learner answers
  - Teacher evaluates the answers
- ParlAI uses Python to model this relationship, creating components for each of the underlined parts above

What is ParlAI?

```
teacher = SquadTeacher(opt)
agent = MyAgent(opt)
world = World(opt, [teacher, agent])
for i in range(num_exs):
  world.parley()
  print(world.display())
```

```
def parley(self):
  for agent in self.agents:
    act = agent.act()
    for other_agent in self.agents:
      if other_agent != agent:
        other_agent.observe(act)
```

What is ParlAI?

- A “unified platform” -- a Python library with a set of classes
- The classes model Teacher-Learner interactions given a particular task
- API for pulling down question banks from the ParlAI repo
- Classes that can be used or modified for developing new tasks
- Working within this framework, dialog systems are standardized

Why use ParlAI?

- Easy to download datasets to train datasets (e.g., SQuAD, BaBI)
- Can train models on multiple datasets simultaneously
- Can connect with Mechanical Turk
- Can connect with Facebook Messenger

Our uses for ParlAI

- BioASQ data - questions and answers for PubMed articles and concepts from UMLS