Third Workshop on Chatbots and Conversational Agent Technologies

WOCHAT Shared Task Update
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Collocated with International Workshop on Spoken Dialogue Systems (IWSDS) 2018
Shared Task Objectives

- To collect chat-oriented dialogue data that can be made available for research purposes
  - Human-chatbot and human-human dialogue sessions
  - Covering a variety of (1) chatbot technologies and approaches, and (2) languages and cultural backgrounds

- To develop a framework for the automatic evaluation of chat-oriented dialogue systems
  - Subjective evaluation of chatting-sessions at the turn level
  - Crowdsourced multiple annotations for the same utterance
  - Apply ML approaches aiming at reproducing annotations (human subjective evaluations)
Shared Task Activities

- **Task 1: Chat Data Collection**
  - Generation of human-chatbot dialogue sessions
  - Satisfaction from users for each dialogue session

- **Task 2: Subjective Evaluation at Turn Level**
  - Manually evaluate a selection of the generated dialogues according to subjective evaluation metrics and guidelines
  - Multiple evaluations are collected by crowdsourcing

- **Task 3: Subrogated Metrics**
  - Participants attempt to model the manually generated subjective evaluation metrics by using machine learning techniques
Shared Task Participation Roles

- **Chatbot provider**
  - The participant owns a chatbot engine and wants to provide access to it either by distributing a standalone version of it or by giving access to it via a webservice or interface.

- **Data generator**
  - The participant is willing to use one or more of the provided chatbots to generate dialogue sessions.

- **Data provider**
  - The participant owns or has access to a chatbot but cannot provide access to it. However, she/he can generate dialogue sessions with it and can provide the generated datasets.

- **Data annotator**
  - The participant is willing to annotate some of the generated and provided dialogue sessions.
Available Chatbots

- **ALANA**: proactive and well-informed social bot who knows about recent news and general world knowledge.
- **CHATBOL**: a Spanish conversational agent for providing information about the Spanish Football League "La Liga".
- **JOKER**: an example-based system that uses a database of semantically indexed dialogue examples to manage dialogue.
- **IRIS**: (Informal Response Interactive System): a chat-oriented dialogue system based on the vector space model framework.
- **pyEliza**: a Python-based stand-alone version of the famous Eliza chatbot created by Weizenbaum in 1966.
- **SARAH**: a version of Alice bot, developed by Dr. Wallace in 1995. It is based on the AIML framework and it is accessible through the pandorabots platform.
- **TickTock**: a chatbot with a goal to engage users in a everyday conversation. It is a based retrieval system with engagement conversational strategies.
- **SAMMY**: is a chatbot based on the public "small-talk" domain available at dialogflow.com. She is conversant in either English, French or Italian.
Annotation Guidelines

Appropriateness score:

- **VALID**: the response is semantically and pragmatically valid given the previous utterance and recent dialogue context.
  - Examples of VALID responses to “how old are you?” would be:
    - “I am 25”, “older than you”, “I am quite young”, etc.

- **ACCEPTABLE**: the response is not necessarily semantically valid but can be acceptable from a pragmatic point of view.
  - Examples of ACCEPTABLE responses to “how old are you?” would be:
    - “let us better talk about food”, “how old are you?”, “what did you say before?”, etc.

- **INVALID**: the response is definitively invalid given the previous utterance and the recent dialogue context.
  - Examples of INVALID responses to “how old are you?” would be:
    - “he goes to the supermarket every Saturday”, “I do not like pizza”, “you seem to be running out of money”, etc.
Annotation Guidelines (continuation)

**Additional tags (optional):**

- **POSITIVE:** to indicate positive polarity of the response.
- **NEGATIVE:** to indicate negative polarity of the response.
- **OFFENSIVE:** to indicate inappropriate offensive response, which does not necessarily contain swear words.
- **SWEARLANG:** to indicate the explicit presence of inappropriate language in the given turn, regardless whether it is offensive or not.
- **ISMACHINE:** this tag might be used for assessing the annotator impression on whether the utterance has been produced by a chatbot (if the identities of the interlocutors are hidden to the annotators).
Shared Task Data and Annotations

- Data collected and annotated so far:
  - Over 1,000 dialogue sessions
  - Comprising about 30,000 turns
  - With around 15,000 turn level annotations

- Recent activities:
  - Research work on models for score prediction
  - Dialogue Breakdown Challenge @ DSTC6
Appropriateness Score Distributions
Next Steps...

- Continue promoting the shared task activities....
  - More data generators and providers are needed
  - More data annotators are needed

- Improve the current chatbot ecosystem
  - Developing APIs for better connectivity with the chatbots
  - Integrating into centralized platforms (Webchat, Dialport)

- Future workshop editions and other events
  - Appropriateness Score Prediction Task @ WOCHAT/DBD
  - JSALT Summer Workshop proposal
  - Next WOCHAT Workshop and/or Special Session