The 7th Dialog System Technology Challenge

DSTC7 Challenge organizers

Koichiro Yoshino
NAIST

Luis Fernando D'Haro, UPM

Julien Perez
Naver Labs

Chiori Hori
MERL
Dialog State Tracking Challenges

- DSTCs have been held as challenges of “dialog state tracking,” as tasks to track dialog frames in several situations

<table>
<thead>
<tr>
<th>Type</th>
<th>Domain</th>
<th>Language</th>
<th>Collected By</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSTC1</td>
<td>Human-Machine</td>
<td>Bus Timetable</td>
<td>English</td>
<td>CMU Antoine Laux @b4.ai</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Evaluation metrics</td>
</tr>
<tr>
<td>DSTC2</td>
<td>Human-Machine</td>
<td>Restaurant</td>
<td>English</td>
<td>University of Cambridge</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Changing user goals</td>
</tr>
<tr>
<td>DSTC3</td>
<td>Human-Machine</td>
<td>Tourist Information</td>
<td>English</td>
<td>University of Cambridge</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cross-domain adaptation</td>
</tr>
<tr>
<td>DSTC4</td>
<td>Human-Human</td>
<td>Tourist Information</td>
<td>English</td>
<td>I2R</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Human conversations</td>
</tr>
<tr>
<td>DSTC5</td>
<td>Human-Human</td>
<td>Tourist Information</td>
<td>English, Chinese</td>
<td>I2R</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cross-language adaptation</td>
</tr>
</tbody>
</table>
# Dialog System Technology Challenge

## DSTC7 Track 1
- **Response selection**
- **Ubuntu Student assistant**
- **Chulaka Gunasekara**
- **Lazaros Polymenakos**
- **IBM**
- **Michigan**
- **Response selection in several conditions**

## DSTC7 Track 2
- **Response generation**
- **Open (reddit)**
- **Jonathan Kummerfeld**
- **Walter Lasecki**
- **Microsoft**
- **Generation system grounded to entities**

## DSTC7 Track 3
- **Audio visual scene aware dialog**
- **Chalades**
- **Chulaka Gunasekara**
- **Lazaros Polymenakos**
- **MERL**
- **Georgia Tech**
- **Extension of VQA to dialog about video**
# Timelines

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 2017 – Dec 2017</td>
<td>Call for task proposals of Tasks</td>
</tr>
<tr>
<td>10 December 2017</td>
<td>Task design: Challenge planning meeting @ DSTC6-WS collocated with NIPS2017 (5 proposals)</td>
</tr>
<tr>
<td>Jan 2018 – Mar 2018</td>
<td>Task selection process with peer review</td>
</tr>
<tr>
<td>Mar 2018</td>
<td>Selected three tracks:</td>
</tr>
<tr>
<td></td>
<td>• Sentence selection</td>
</tr>
<tr>
<td></td>
<td>• Sentence generation</td>
</tr>
<tr>
<td></td>
<td>• Audio visual scene aware dialog</td>
</tr>
<tr>
<td>Mar 2018 – May 2018</td>
<td>Track preparation</td>
</tr>
<tr>
<td>1 Jun 2018 – 9 Sep 2018</td>
<td>Development phase</td>
</tr>
<tr>
<td>10 Sep 2018 – 8 Oct 2018</td>
<td>Evaluation phase</td>
</tr>
<tr>
<td>16 Oct 2018</td>
<td>Objective evaluation results are released</td>
</tr>
<tr>
<td>23 Oct 2018</td>
<td>Human evaluation results are released</td>
</tr>
<tr>
<td>16 Nov 2018</td>
<td>Paper submission</td>
</tr>
<tr>
<td>27 Jan 2019</td>
<td>DSTC7 wrap-up workshop @ AAAI</td>
</tr>
</tbody>
</table>

More than 200 people registered

34 papers accepted

- More than 200 people registered
- 34 papers accepted
Participants of this Challenge

- There are **234 registrations** to show their interests for challenges
- **139 systems by 36 teams** were submitted as final results
- **34 papers** will be presented in the workshop
- **74 registrations** to the workshop (in Jan 9th) + on-site

- **8 proposals** of DSTC8 was submitted
  - Will be discussed at the discussion track of the workshop
Workshop on
Reasoning and Learning for Human-Machine Dialogues
(DEEP-DIAL 2019)

Organizers:
Biplav Srivastava, IBM, USA
Susanne Biundo, University of Ulm, Germany
Ullas Nambiar, Zensar Labs, India
Imed Zitouni, Microsoft AI+R, USA

URL: https://sites.google.com/view/deep-dial-2019/
January 27, 2019
Interest Areas (Non Limiting)

**Dialog Systems**
- Design considerations for dialog systems
- Evaluation of dialog systems, metrics
- Open domain dialog and chat systems
- Task-oriented dialogs
- Style, voice and personality in spoken dialogue and written text
- Novel Methods for NL Generation for dialogs
- Early experiences with implemented dialog systems
- Mixed-initiative dialogs where a partner is a combination of agent and human
- Hybrid methods

**Reasoning**
- Domain model acquisition, especially from unstructured text
- Plan recognition in natural conversation
- Planning and reasoning in the context of dialog systems
- Handling uncertainty
- Optimal dialog strategies

**Learning**
- Learning to reason
- Learning for dialog management
- End2end models for conversation
- Explaining dialog policy

**Practical Considerations**
- Responsible chatting
- Ethical issues with learning and reasoning in dialog systems
- Corpora, Tools and Methodology for Dialogue Systems
- Securing one’s chat

*Bold: new topics beyond DEEP-DIAL 2018*
About the Workshop

• # (8+15) Program Committee Members
• 19 Papers submitted
  — 6 accepted for full presentation
  — 5 accepted for lightning talks and posters
• AIJ Supported Competition cum Support Program
• 3 exciting invited talks
• ~60 registered participants

Program Committee

1. Pavan Kapanipathi, IBM TJ Watson Research Center, USA
2. Mitesh Vasa, IBM, USA
3. Matthew Peveler, Rensselaer Polytechnic Institute, USA
4. Q. Vera Liao, IBM, USA
5. Madian Khabsa, Apple, USA
6. Debdoott Mukherjee, Hike Messenger, India
7. Seyyed Hadi Hashemi, University of Amsterdam, Netherlands
8. Sumant Kulkarni, Zenlabs, Zensar Technologies, India
9. Julia Kiseleva, Microsoft Research AI, USA
10. Kyle Williams, Microsoft, USA
11. Rahul Jha, University of Michigan, USA
12. Srikanth Tamilselvam, IBM Global Business Services, India
13. Adi Botea, IBM, Ireland
14. Walter Lasecki, University of Michigan, Computer Science & Engineering, USA
15. Atriya Sen, Rensselaer Polytechnic Institute, USA
Title: Towards Collaborative Dialogue  
Speaker: Prof. Phil Cohen, Monash University, Australia

Title: Towards smart chatbots for enhanced health: using multisensory sensing, semantic-cognitive-perceptual computing for monitoring, appraisal, adherence to intervention  
Speaker: Prof. Amit Sheth, AAAI and IEEE Fellow, Knoesis, Wright State University, USA

Title: Using Conversation Agents for Customer Support at Scale - the IBM Case Study  
Speaker: Jim Dewan, Solution Architect, IBM Support Transformation Team, USA