

DialDoc 2021

**The 1st Workshop on Document-grounded Dialogue
and Conversational Question Answering**

Proceedings of the Workshop

August 5, 2021
Bangkok, Thailand (online)

©2021 The Association for Computational Linguistics
and The Asian Federation of Natural Language Processing

Order copies of this and other ACL proceedings from:

Association for Computational Linguistics (ACL)
209 N. Eighth Street
Stroudsburg, PA 18360
USA
Tel: +1-570-476-8006
Fax: +1-570-476-0860
acl@aclweb.org

ISBN 978-1-954085-68-8

Preface

DialDoc Workshop focuses on Document-grounded Dialogue and Conversational Question Answering where system responses or answers are based on the relevant content in the associated documents. Such dialogue and conversational question answering systems have the potential to access heterogeneous knowledge in document content dynamically via natural language interactions. In addition, there is a vast amount of written and visual document content created by individuals and organizations to present their knowledge to the world in broad applications. Thus, there is a substantial demand of building personal assistive conversational systems based on documents in many different domains. This area also attracts great attentions from researchers and practitioners in various fields.

There are significant individual research threads that show promises in dialogue and QA models over different kinds of knowledge in document content, including (1) unstructured content such as text passages; (2) semi-structured content such as tables or lists; (3) multimedia such as images and videos with associated textual descriptions; (4) or structured data specified by schema such as RDFa or Microdata in the webpages. The purpose of this workshop is to invite researchers to bring their individual perspectives on the document-grounded dialogue and conversational question answering and advance the related AI research in joint effort. We also organize a Shared Task on modeling goal-oriented information-seeking dialogues that are grounded in the associated documents.

This Shared Task focuses on building goal-oriented information-seeking conversation systems. The goal is to teach a dialogue system to identify the most relevant knowledge in the given document for generating agent responses in natural language. It includes two subtasks: the first subtask is to predict the grounding span for next agent response given the context; the second subtask is to generate agent response in natural language given the context. There are a total of 23 teams that participated Dev-Test phase. For final test phrase, 11 teams submitted to the leaderboard of Subtask 1, and 9 teams submitted to the leaderboard of Subtask 2. Many submissions outperform baseline significantly. For the first task, the best system achieved 67.1 Exact Match and 76.3 F1 score. For the second subtask, the best system achieved 41.1 SacreBLEU score and highest rank by human evaluation.

In this workshop, we have research track and technical system track for Shared Task. There are a total 22 submissions, including 14 submissions to research track and 8 submissions to technical system track, among which, there are 5 non-archival submissions. The workshop program features all 19 accepted papers with another 8 ACL finding papers from ACL main conference. The paper presentations are either as posters or talks in virtual format. We are also fortunate to have great invited talks by Jonathan Berant, Danqi Chen, Dilek Hakkani-Tur, Verena Rieser, Jason Weston, William Wang Yang and Scott (Wen-tau) Yih.

Finally, we would like to thank our program committee members, invited speakers, ACL workshop chairs. We are also thankful to IBM Research for sponsoring the Shared Task competition.

Organizing Committee

Song Feng, IBM Research

Siva Reddy, McGill University and MILA

Malihe Alikhani, University of Pittsburgh

He He, New York University

Yangfeng Ji, University of Virginia

Mohit Iyyer, University of Massachusetts Amherst

Zhou Yu, Columbia University

Program Committee

Amanda Buddemeyer, University of Pittsburgh

Asli Celikyilmaz, Microsoft Research

Chengguang Tang, Alibaba DAMO

Chulaka Gunasekara, IBM Research AI

Danish Contractor, IBM Research AI

Dian Yu, Tencent

Diane Litman, University of Pittsburgh

Ehud Reiter, University of Aberdeen

Elizabeth Clark, University of Washington

Eunsol Choi, University of Texas at Austin

Hanjie Chen, University of Virginia

Hareesh Ravi, Rutgers University

Hui Wan, IBM Research AI

Ioannis Konstas, Heriot-Watt University

Jiwei Li, SHANNON.AI

Jonathan Herzig, Tel-Aviv University

Matthew Stone, Rutgers University

Mert Inan, University of Pittsburgh

Michael Johnston, Interactions

Minjoon Seo, KAIST

Mo Yu, IBM Research AI

Peng Qi, Stanford University

Ravneet Singh, University of Pittsburgh
Ryuichi Takanobu, Tsinghua University
Seokhwan Kim, Amazon Alexa AI
Shehzaad Dhuliawala, Microsoft Research Montreal
Srinivas Bangalore, Interactions
Vaibhav Adlakha, McGill and Mila
Xiaoxiao Guo, IBM Research AI

Invited Speakers

Jonathan Berant, Tel-Aviv University
Danqi Chen, Princeton University
Dilek Hakkani-Tur, Amazon Alexa AI
Verena Rieser, Heriot-Watt University
Jason Weston, Facebook AI Research
William Wang Yang, University of California, Santa Barbara
Scott (We- tau) Yih, Facebook AI Research

Table of Contents

<i>DialDoc 2021 Shared Task: Goal-Oriented Document-grounded Dialogue Modeling</i> Song Feng	1
<i>SeqDialN: Sequential Visual Dialog Network in Joint Visual-Linguistic Representation Space</i> Liu Yang, Fanqi Meng, Xiao Liu, Ming-Kuang Daniel Wu, Vicent Ying and James Xu	8
<i>A Template-guided Hybrid Pointer Network for Knowledge-based Task-oriented Dialogue Systems</i> Dingmin Wang, ziyao chen, Wanwei He, Li Zhong, Yunzhe Tao and Min Yang	18
<i>Automatic Learning Assistant in Telugu</i> Meghana Bommadi, Shreya Terupally and Radhika Mamidi	29
<i>Combining Open Domain Question Answering with a Task-Oriented Dialog System</i> Jan Nehring, Nils Feldhus, Harleen Kaur and Akhyar Ahmed	38
<i>CAiRE in DialDoc21: Data Augmentation for Information Seeking Dialogue System</i> Yan Xu, Etsuko Ishii, Genta Indra Winata, Zhaojiang Lin, Andrea Madotto, Zihan Liu, Peng Xu and Pascale Fung	46
<i>Technical Report on Shared Task in DialDoc21</i> Jiapeng Li, Mingda Li, Longxuan Ma, Wei-Nan Zhang and Ting Liu	52
<i>Cascaded Span Extraction and Response Generation for Document-Grounded Dialog</i> Nico Daheim, David Thulke, Christian Dugast and Hermann Ney	57
<i>Ensemble ALBERT and RoBERTa for Span Prediction in Question Answering</i> Sony Bachina, Spandana Balumuri and Sowmya Kamath S	63
<i>WeaSuLπ: Weakly Supervised Dialogue Policy Learning: Reward Estimation for Multi-turn Dialogue</i> Anant Khandelwal	69
<i>Summary-Oriented Question Generation for Informational Queries</i> Xusen Yin, Li Zhou, Kevin Small and Jonathan May	81
<i>Document-Grounded Goal-Oriented Dialogue Systems on Pre-Trained Language Model with Diverse Input Representation</i> Boeun Kim, Dohaeng Lee, Sihyung Kim, Yejin Lee, Jin-Xia Huang, Oh-Woog Kwon and Harksoo Kim	98
<i>Team JARS: DialDoc Subtask 1 - Improved Knowledge Identification with Supervised Out-of-Domain Pretraining</i> Sopan Khosla, Justin Lovelace, Ritam Dutt and Adithya Pratapa	103
<i>Building Goal-oriented Document-grounded Dialogue Systems</i> Xi Chen, Faner Lin, Yeju Zhou, Kaixin Ma, Jonathan Francis, Eric Nyberg and Alessandro Oltra- mari	109
<i>Agenda Pushing in Email to Thwart Phishing</i> Hyundong Cho, Genevieve Bartlett and Marjorie Freedman	113

Can I Be of Further Assistance? Using Unstructured Knowledge Access to Improve Task-oriented Conversational Modeling

Di Jin, Seokhwan Kim and Dilek Hakkani-Tur..... 119

Conference Program

Thursday, August 5, 2021

8:00–8:05 **Openning Remark**

8:05–8:40 **Invited talk I: Jonathan Berant**

8:40–9:15 **Invited talk II: Verena Rieser**

9:15–10:05 **Paper lightning talk I**

10:05–10:30 **Coffee break**

10:30–11:05 **Invited talk III: Jason Weston**

11:05–11:30 **Shared task overview**

11:05–11:30 *DialDoc 2021 Shared Task: Goal-Oriented Document-grounded Dialogue Modeling*
Song Feng

11:30–12:30 **Poster session I**

11:30–12:30 *SeqDialN: Sequential Visual Dialog Network in Joint Visual-Linguistic Representation Space*
Liu Yang, Fanqi Meng, Xiao Liu, Ming-Kuang Daniel Wu, Vicent Ying and James Xu

11:30–12:30 *A Template-guided Hybrid Pointer Network for Knowledge-based Task-oriented Dialogue Systems*
Dingmin Wang, ziyao chen, Wanwei He, Li Zhong, Yunzhe Tao and Min Yang

11:30–12:30 *Automatic Learning Assistant in Telugu*
Meghana Bommadi, Shreya Terupally and Radhika Mamidi

Thursday, August 5, 2021 (continued)

- 11:30–12:30 *Combining Open Domain Question Answering with a Task-Oriented Dialog System*
Jan Nehring, Nils Feldhus, Harleen Kaur and Akhyar Ahmed
- 11:30–12:30 *CAiRE in DialDoc21: Data Augmentation for Information Seeking Dialogue System*
Yan Xu, Etsuko Ishii, Genta Indra Winata, Zhaojiang Lin, Andrea Madotto, Zihan Liu, Peng Xu and Pascale Fung
- 11:30–12:30 *Technical Report on Shared Task in DialDoc21*
Jiapeng Li, Mingda Li, Longxuan Ma, Wei-Nan Zhang and Ting Liu
- 11:30–12:30 *Cascaded Span Extraction and Response Generation for Document-Grounded Dialog*
Nico Daheim, David Thulke, Christian Dugast and Hermann Ney
- 11:30–12:30 *Ensemble ALBERT and RoBERTa for Span Prediction in Question Answering*
Sony Bachina, Spandana Balumuri and Sowmya Kamath S
- 11:30–12:30 *Q²: Evaluating Factual Consistency in Knowledge-Grounded Dialogues via Question Generation and Question Answering*
Or Honovich, Leshem Choshen, Roei Aharoni, Ella Neeman, Idan Szpektor and Omri Abend
- 12:30–13:30 Lunch break**
- 13:30–14:05 Invited talk IV: Danqi Chen**
- 14:05–14:55 Paper lightning talk II**
- 14:55–15:30 Invited talk V: Dilek Hakkani-Tur**

Thursday, August 5, 2021 (continued)

15:30–16:30 Poster session II

- 15:30–16:30 *WeaSuL π : Weakly Supervised Dialogue Policy Learning: Reward Estimation for Multi-turn Dialogue*
Anant Khandelwal
- 15:30–16:30 *Summary-Oriented Question Generation for Informational Queries*
Xusen Yin, Li Zhou, Kevin Small and Jonathan May
- 15:30–16:30 *Document-Grounded Goal-Oriented Dialogue Systems on Pre-Trained Language Model with Diverse Input Representation*
Boeun Kim, Dohaeng Lee, Sihyung Kim, Yejin Lee, Jin-Xia Huang, Oh-Woog Kwon and Harksoo Kim
- 15:30–16:30 *Team JARS: DialDoc Subtask 1 - Improved Knowledge Identification with Supervised Out-of-Domain Pretraining*
Sopan Khosla, Justin Lovelace, Ritam Dutt and Adithya Pratapa
- 15:30–16:30 *Building Goal-oriented Document-grounded Dialogue Systems*
Xi Chen, Faner Lin, Yeju Zhou, Kaixin Ma, Jonathan Francis, Eric Nyberg and Alessandro Oltramari
- 15:30–16:30 *Agenda Pushing in Email to Thwart Phishing*
Hyundong Cho, Genevieve Bartlett and Marjorie Freedman
- 15:30–16:30 *Can I Be of Further Assistance? Using Unstructured Knowledge Access to Improve Task-oriented Conversational Modeling*
Di Jin, Seokhwan Kim and Dilek Hakkani-Tur
- 15:30–16:30 *Open-Retrieval Conversational Machine Reading*
Yifan Gao, Jingjing Li, Michael Lyu and Irwin King
- 15:30–16:30 *Empathic Conversations Grounded in News Stories: Dataset and Modeling of Empathy and Distress*
Damilola Omitaomu, Shabnam Tafreshi, Sven Buechel, Chris Callison-Burch, Lyle Ungar, Anneke Buffone and João Sedoc
- 15:30–16:30 *A Multi-Passage Knowledge Selector for Information-Seeking Dialogues*
Zeqiu Wu, Bo-Ru Lu, Hannaneh Hajishirzi and Mari Ostendorf

Thursday, August 5, 2021 (continued)

16:30–17:05 Invited talk VI: William Wang Yang

17:05–17:40 Invited talk VII: Scott (Wen-tau) Yih