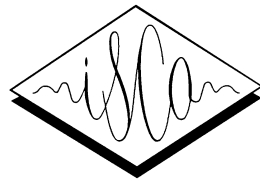


SIGDIAL 2021

**22nd Annual Meeting of the
Special Interest Group on Discourse and Dialogue**



Proceedings of the Conference

29-31 July 2021
Singapore and Online

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International Speech Communication Association (ISCA)

Association for the Advancement of Artificial Intelligence (AAAI)

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Preface

We are glad to pen the first few words for the proceedings of SIGDIAL 2021, the 22nd Annual Meeting of the Special Interest Group on Discourse and Dialogue. The SIGDIAL conference is a premier publication venue for research in discourse and dialogue.

This year, the conference is organized as a hybrid event with both in-person and virtual participation on July 29-31, 2021, right before ACL-IJCNLP 2021. The 2021 Young Researchers' Roundtable on Spoken Dialog Systems (YRRSDS 2021) is also held as a satellite event. The SIGDIAL 2021 program features three keynote talks, 6 paper presentation sessions, 1 demo session, and 2 special sessions, entitled "Summarization of Dialogues and Multi-Party Meetings", and "Safety for E2E Conversational AI".

COVID has changed the way we work, but it doesn't hamper our research progress. We received 142 submissions this year, comprising 88 long papers, 49 short papers, and 5 demo descriptions. We had 12 Senior Program Committee (SPC) members who were each responsible for 11-12 papers, leading the discussion process and also contributing meta-reviews. Each submission was assigned to an SPC member and received at least three reviews. Decisions carefully considered the original reviews, meta-reviews, and discussions among reviewers facilitated by the SPCs. We are immensely grateful to the members of the Program Committee and Senior Program Committee for efforts in providing excellent, thoughtful reviews of the large number of submissions. Their contributions have been essential to selecting the accepted papers and providing a high-quality technical program for the conference. We have aimed to develop a broad, varied program spanning the many positively rated papers identified by the review process. We accepted 59 papers in total: 40 long papers (45%), 15 short papers (31%), and 4 demo descriptions, for an overall acceptance rate of 41.5%, in line with prior years.

One keynote will highlight each of the three days of the conference. In organizing this hybrid in-person/virtual conference, we have tried to maintain as much of the spirit of a fully online conference as possible. Recordings for all papers and demos have been made available several days before the start of the conference, for participants to watch asynchronously. Long and short papers are organized into sessions taking into consideration the presenters' time zones. Regular papers sessions span 8-11 papers, each presented as a two-minute pre-recorded talk followed by five minutes of live Q&A. For demos, we organized four parallel zoom rooms to allow participants to interact with and observe live interactions with the systems. The topics represent the breadth of research in discourse and dialogue. A conference of this size requires the energy, guidance, and contributions of many parties, and we would like to take this opportunity to thank and acknowledge them all. We thank our three keynote speakers, Julia Hirschberg (Columbia University), Raymond J. Mooney (University of Texas at Austin), and Jason Weston (Facebook AI & NYU), for their inspiring talks on "Whom Do We Trust in Dialogue Systems?", "Dialog with Robots: Perceptually Grounded Communication with Lifelong Learning", and "A journey from ML & NNs to NLP and Beyond: Just more of the same isn't enough?" We also thank the organizers of the two special sessions: "Summarization of Dialogues and Multi-Party Meetings", and "Safety for E2E Conversational AI". We are grateful for their coordination with the main conference.

SIGDIAL 2021 is made possible by the dedication and hard work of our community. We are indebted to many. The SIGDIAL track record of excellence continues this year. This would not have been possible without the advice and support of the SIGDIAL board, particularly Gabriel Skantze and Mikio Nakano for their guidance. Special mention must be made of the fact that, for the first time, we pilot a hybrid conference to facilitate the participation. This inevitably increases the workload for the organizers.

We take this opportunity to express our gratitude to the local chairs, Chitrallekha Gupta, and Berrak Sisman for coordinating everything flawlessly, the local co-chairs, Yi Zhou, Mingyang Zhang, Grandee Lee, Rui Liu, Zongyang Du, Kun Zhou, and Chen Zhang for managing the virtual platform and local

matters professionally; the COLIPS council members Yan Wu , Minghui Dong, and Lei Wang for their tremendous support to the arrangement of venue and social programs. Special thanks go to local chair Siqi Cai for her tireless effort in managing the website with timely updates, and to local co-chair Bidisha Sharma for conference registration, last but not least, to Celine Cheong and Min Yuan for their administrative support. SIGDIAL 2021 would not have been possible without their extraordinary effort.

We would also like to thank the sponsorship chair David Vandyke, who has been our SIGDIAL ambassador to the industry year after year. He continued to bring to the conference an impressive panel of conference sponsors. We thank David for his dedicated effort. We gratefully acknowledge the support of our sponsors: LivePerson (Platinum), Apple, DataBaker, Google and Rasa Technologies (Gold) and Furhat Robotics, Toshiba Research Europe (Silver). In addition, we thank Jessy Li, the publication chair, Nina Dethlefs, the mentoring chair for their dedicated services.

Finally, it is our great pleasure to welcome you physically and virtually to the conference. We hope that you will have an enjoyable and productive time, and leave with fond memories of SIGDIAL 2021. With our best wishes for a successful conference!

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Wolfgang Maier, Ye Liu, Eda Okur, Mauricio Mazuecos

Invited Speakers:

Julia Hirschberg, Columbia University, USA
Raymond J. Mooney, University of Texas, USA
Jason Weston, Facebook AI & NYU Visiting Research Professor, USA

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Conference Program

July 29, 2021

20:00–20:30 *BREAKOUT*

20:30–21:00 *Opening Ceremony*

21:00–22:15 *Keynote 1: Dialog with Robots: Perceptually Grounded Communication with Lifelong Learning*
Raymond J. Mooney

22:30–03:00 *Special Session: Summarization of Dialogues and Multi-Party Meetings (Summ-Dial)*

22:00–00:15 *Special Session: Safety for E2E Conversational AI (SafeConvAI)*

July 30, 2021

12:00–13:00 **Paper Session P1**

Understanding and predicting user dissatisfaction in a neural generative chatbot
Abigail See and Christopher Manning

Towards Continuous Estimation of Dissatisfaction in Spoken Dialog
Nigel Ward, Jonathan E. Avila and Aaron M. Alarcon

DialogStitch: Synthetic Deeper and Multi-Context Task-Oriented Dialogs
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Individual Interaction Styles: Evidence from a Spoken Chat Corpus
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Evaluation of In-Person Counseling Strategies To Develop Physical Activity Chatbot for Women
Kai-Hui Liang, Patrick Lange, Yoo Jung Oh, Jingwen Zhang, Yoshimi Fukuoka and Zhou Yu

July 30, 2021 (continued)

Improving Named Entity Recognition in Spoken Dialog Systems by Context and Speech Pattern Modeling

Minh Nguyen and Zhou Yu

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Sujith Ravi and Zornitsa Kozareva

Getting to Production with Few-shot Natural Language Generation Models

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13:00–14:30 Paper Session P2

ARTA: Collection and Classification of Ambiguous Requests and Thoughtful Actions

Shohei Tanaka, Koichiro Yoshino, Katsuhito Sudoh and Satoshi Nakamura

Integrated taxonomy of errors in chat-oriented dialogue systems

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Ibrahim Taha Aksu, Zhengyuan Liu, Min-Yen Kan and Nancy Chen

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Satwik Kottur, Paul Crook, Seungwhan Moon, Ahmad Beirami, Eunjoon Cho, Rajen Subba and Alborz Geramifard

A Simple yet Effective Method for Sentence Ordering

Aili Shen and Timothy Baldwin

July 30, 2021 (continued)

Topic Shift Detection for Mixed Initiative Response

Rachna Konigari, Saurabh Ramola, Vijay Vardhan Alluri and Manish Shrivastava

Improving Unsupervised Dialogue Topic Segmentation with Utterance-Pair Coherence Scoring

Linzi Xing and Giuseppe Carenini

14:30–15:00 BREAKOUT

15:00–16:00 Paper Session P3

Fundamental Exploration of Evaluation Metrics for Persona Characteristics of Text Utterances

Chiaki Miyazaki, Saya Kanno, Makoto Yoda, Junya Ono and Hiromi Wakaki

Multi-Referenced Training for Dialogue Response Generation

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Recent Neural Methods on Dialogue State Tracking for Task-Oriented Dialogue Systems: A Survey

Vevake Balaraman, Seyedmostafa Sheikhalishahi and Bernardo Magnini

July 30, 2021 (continued)

16:00–17:00 Demo Session

Scikit-talk: A toolkit for processing real-world conversational speech data

Andreas Liesenfeld, Gabor Parti and Chu-Ren Huang

ERICA: An Empathetic Android Companion for Covid-19 Quarantine

Etsuko Ishii, Genta Indra Winata, Samuel Cahyawijaya, Divesh Lala, Tatsuya Kawahara and Pascale Fung

A multi-party attentive listening robot which stimulates involvement from side participants

Koji Inoue, Hiromi Sakamoto, Kenta Yamamoto, Divesh Lala and Tatsuya Kawahara

A Cloud-based User-Centered Time-Offset Interaction Application

Alberto Chierici, Tyece Kiana Fredorcia Hensley, Wahib Kamran, Kertu Koss, Armaan Agrawal, Erin Meekhof, Goffredo Puccetti and Nizar Habash

17:30–19:00 Panel

19:00–20:00 Virtual Tour (ALL) and Dinner (Physical only)

20:00–21:00 Sponsor Session SPSI

21:00–22:15 *Keynote 2: A journey from ML and NNs to NLP and Beyond: Just more of the same isn't enough?*

Jason Weston

July 30, 2021 (continued)

23:00–00:00 Paper Session P4

Telling Stories through Multi-User Dialogue by Modeling Character Relations

Wai Man Si, Prithviraj Ammanabrolu and Mark Riedl

Summarizing Behavioral Change Goals from SMS Exchanges to Support Health Coaches

Itika Gupta, Barbara Di Eugenio, Brian D. Ziebart, Bing Liu, Ben S. Gerber and Lisa K. Sharp

Rare-Class Dialogue Act Tagging for Alzheimer’s Disease Diagnosis

Shamila Nasreen, Julian Hough and Matthew Purver

CIDER: Commonsense Inference for Dialogue Explanation and Reasoning

Deepanway Ghosal, Pengfei Hong, Siqi Shen, Navonil Majumder, Rada Mihalcea and Soujanya Poria

Where Are We in Discourse Relation Recognition?

Katherine Atwell, Junyi Jessy Li and Malihe Alikhani

Annotation Inconsistency and Entity Bias in MultiWOZ

Kun Qian, Ahmad Beirami, Zhouhan Lin, Ankita De, Alborz Geramifard, Zhou Yu and Chinnadhurai Sankar

On the Need for Thoughtful Data Collection for Multi-Party Dialogue: A Survey of Available Corpora and Collection Methods

Khyati Mahajan and Samira Shaikh

How Should Agents Ask Questions For Situated Learning? An Annotated Dialogue Corpus

Felix Gervits, Antonio Roque, Gordon Briggs, Matthias Scheutz and Matthew Marge

July 31, 2021

19:00–20:00 *Sponsor Session SPS2*

20:00–21:00 **Paper Session P5**

How Will I Argue? A Dataset for Evaluating Recommender Systems for Argumentations

Markus Brenneis, Maike Behrendt and Stefan Harmeling

From Argument Search to Argumentative Dialogue: A Topic-independent Approach to Argument Acquisition for Dialogue Systems

Niklas Rach, Carolin Schindler, Isabel Feustel, Johannes Daxenberger, Wolfgang Minker and Stefan Ultes

What to Fact-Check: Guiding Check-Worthy Information Detection in News Articles through Argumentative Discourse Structure

Tariq Alhindi, Brennan McManus and Smaranda Muresan

How "open" are the conversations with open-domain chatbots? A proposal for Speech Event based evaluation

A. Seza Dođruöz and Gabriel Skantze

Blending Task Success and User Satisfaction: Analysis of Learned Dialogue Behaviour with Multiple Rewards

Stefan Ultes and Wolfgang Maier

Diversity as a By-Product: Goal-oriented Language Generation Leads to Linguistic Variation

Simeon Schüz, Ting Han and Sina Zarriß

DTAFA: Decoupled Training Architecture for Efficient FAQ Retrieval

Haytham Assem, Sourav Dutta and Edward Burgin

Projection of Turn Completion in Incremental Spoken Dialogue Systems

Erik Ekstedt and Gabriel Skantze

July 31, 2021 (continued)

21:00–22:00 Paper Session P6

A Task-Oriented Dialogue Architecture via Transformer Neural Language Models and Symbolic Injection

Oscar J Romero, Antian Wang, John Zimmerman, Aaron Steinfeld and Anthony Tomasic

Domain-independent User Simulation with Transformers for Task-oriented Dialogue Systems

Hsien-chin Lin, Nurul Lubis, Songbo Hu, Carel van Niekerk, Christian Geishauer, Michael Heck, Shutong Feng and Milica Gasic

A Practical 2-step Approach to Assist Enterprise Question-Answering Live Chat

Ling-Yen Liao and Tarec Fares

A Brief Study on the Effects of Training Generative Dialogue Models with a Semantic loss

Prasanna Parthasarathi, Mohamed Abdelsalam, Sarath Chandar and Joelle Pineau

Do Encoder Representations of Generative Dialogue Models have sufficient summary of the Information about the task ?

Prasanna Parthasarathi, Joelle Pineau and Sarath Chandar

GenSF: Simultaneous Adaptation of Generative Pre-trained Models and Slot Filling

Shikib Mehri and Maxine Eskenazi

Schema-Guided Paradigm for Zero-Shot Dialog

Shikib Mehri and Maxine Eskenazi

22:00–22:30 BREAKOUT

22:30–23:45 *Keynote 3: Whom Do We Trust in Dialogue Systems?*

Julia Hirschberg

00:00–01:00 Business Meeting and Closing Ceremony

Special Session: Summarization of Dialogues and Multi-Party Meetings (SummDial)

22:30–22:45 *Opening*

22:45–23:30 *Keynote 1: Who discussed what with whom: is meeting summarization a solved problem?*
Klaus Zechner

23:30–23:35 *Break*

23:35–23:55 *Coreference-Aware Dialogue Summarization*
Zhengyuan Liu, Ke Shi and Nancy Chen

23:55–00:15 *Weakly Supervised Extractive Summarization with Attention*
Yingying Zhuang, Yichao Lu and Simi Wang

00:15–00:35 *Incremental temporal summarization in multi-party meetings*
Ramesh Manuvinakurike, Saurav Sahay, Wenda Chen and Lama Nachman

00:35–00:45 *Break*

00:45–01:45 *Panel Discussion: Dialogue and Meeting Summarization: Taking Stock and Looking Ahead*
Ani Nenkova, Klaus Zechner, Diyi Yang, and Chenguang Zhu

01:45–01:50 *Break*

01:50–02:10 *Mitigating Topic Bias when Detecting Decisions in Dialogue*
Mladen Karan, Prashant Khare, Patrick Healey and Matthew Purver

02:10–02:30 *Creating a data set of abstractive summaries of turn-labeled spoken human-computer conversations*
Iris Hendrickx and Virginia Meijer

02:30–02:50 *Dynamic Sliding Window for Meeting Summarization*
Zhengyuan Liu and Nancy Chen

Special Session: Summarization of Dialogues and Multi-Party Meetings (SummDial) (continued)

02:50–03:00 *Closing*

Special Session: Safety for E2E Conversational AI (SafeConvAI)

22:00–22:10 *Welcome by the organisers*
Verena Rieser

22:10–22:50 *Keynote*
Laurence Devillers

22:50–23:00 *Coffee break*

23:00–23:30 **Paper presentations**

Assessing Political Prudence of Open-domain Chatbots

Yejin Bang, Nayeon Lee, Etsuko Ishii, Andrea Madotto and Pascale Fung

Large-Scale Quantitative Evaluation of Dialogue Agents' Response Strategies against Offensive Users

Haojun Li, Dilara Soylu and Christopher Manning

Panel discussion

Pascale Fung, Pilar Manchon, Ehud Reiter, Michelle Zhou, Emily Dinan (session chair)

