In cooperation with:
Association for Computational Linguistics (ACL)
International Speech Communication Association (ISCA)
Association for the Advancement of Artificial Intelligence (AAAI)

We thank our sponsors:

- Apple
- Rasa Technologies
- Honda Research Institute
- Toshiba Research Europe

Gold

Silver
Introduction

We are excited to welcome you to SIGDIAL 2020, the 21st Annual Meeting of the Special Interest Group on Discourse and Dialogue. This year the conference is being held virtually, on July 1-3, 2020, with the Satellite Event YRRSDS 2020 (Young Researchers’ Roundtable on Spoken Dialog Systems) and just before ACL 2020 that will take place also virtually July 5-10, 2020.

The SIGDIAL conference is a premier publication venue for research in discourse and dialogue. This year, the program includes three keynote talks, nine presentation sessions, three demo sessions, and a special session entitled “Situated Dialogue with Virtual Agents and Robots (RoboDial 2.0)” organized by Jose David Lopes, Stephanie Lukin, Matthew Marge, Vikram Ramanarayanan, Matthias Scheutz, Casey Kennington, and Cynthia Matuszek.

We received 104 submissions this year, which comprised 62 long papers, 32 short papers and 10 demo descriptions. This year, for the first time, we had 8 Senior Program Committee (SPC) members who were responsible for a set of 10-15 papers each, guiding the discussion process and writing a meta-review. Every submission was assigned to one SPC and received at least three reviews. When making our selections for the program, we carefully considered the reviews, meta-reviews and the comments made during the discussions among reviewers. The members of the Senior Program Committee and Program Committee did an excellent job in reviewing the submitted papers, and we thank them for their essential role in selecting the accepted papers and helping produce a high quality program for the conference. In line with the SIGDIAL tradition, our aim has been to create a balanced program that accommodates as many favorably rated papers as possible. We accepted 41 papers: 23 long papers, 10 short papers, and 8 demo descriptions. These numbers give an overall acceptance rate of 39%. The acceptance rate for long papers (37%) and short papers (31%) remains in line with the acceptance rate from last year.

Each of the three conference days features one keynote and several oral sessions, with the remaining time given to demos, special session and sponsor sessions. In organizing the virtual conference, we decided to keep as much as possible the spirit of an in person conference. All keynotes, talks and demos are pre-recorded and made available at the beginning of the conference for participants to watch asynchronously. The long and short papers are organized in thematic sessions and take into consideration the speakers’ different time zones. The sessions contain 3-4 pre-recorded talks followed by a Live QA part with the presenters. For demos, we organized Live Question Answering sessions with the demo presenters. Topic-wise, we have papers on evaluation and corpora, natural language generation, task oriented dialogues, knowledge use and acquisition, behaviour modeling, dialogue policy and dialogue state tracking, modeling convergence in dialogues, and the semantics and pragmatics of discourse and dialogue.

A conference of this scale requires advice, help and enthusiastic participation of many parties, and we have a big ‘thank you’ to say to all of them. Regarding the program, we thank our three keynote speakers, Asli Celikyilmaz (Microsoft Research), Diane Litman (University of Pittsburgh) and Gabriel Skantze (KTH Royal Institute of Technologies), for their inspiring talks on "Neural text Generation: Progress and Challenges", "Argument Mining, Discourse Analysis, and Educational Applications" and "Conversational Turn-taking in Human-robot Interaction". We also thank the organizers of the special session on Situated Dialogue with Virtual Agents and Robots (RoboDial 2.0). We are grateful for their smooth and efficient coordination with the main conference.

We extend special thanks to our Local Chair, Casey Kennington, for handling the situation of adapting to a virtual conference. SIGDIAL 2020 would not have been possible without his effort in arranging the virtual platform, handling registration, numerous preparations for the conference, and last but not least, Casey’s personal contributions, which exceeded those of a local organizer. We also thank the virtual presentation co-chairs, Koji Inoue and Erik Ekstedt, for helping the authors with their video
presentations, arranging for the video streaming during the conference and hosting the Zoom Live QAs sessions.

David Vandyke, our Sponsorship Chair, has conducted the massive task of recruiting and liaising with our conference sponsors, many of whom continue to contribute year after year. We thank David for his dedicated work and his assistance with conference planning. We gratefully acknowledge the support of our sponsors: (Gold level) Apple and Rasa Technologies and (Silver level) Toshiba Research Europe and Honda Research Institute.

In addition, we thank Nina Dethlefs, Mentoring Chair for SIGDIAL 2020, for her dedicated work on the mentoring process. The goal of mentoring is to assist authors of papers that contain important ideas but require significant stylistic modifications, and we thank our mentoring team for their excellent support of the authors; and Stefan Ultes, our publication chair, capped the long organizational process by putting together these high quality conference proceedings.

We thank the SIGdial board, both current and emeritus officers, Gabriel Skantze, Mikio Nakano, Vikram Ramanarayanan, Ethan Selfridge, Jason Williams and Amanda Stent, for their advice and support from beginning to end.

We once again thank our senior program committee members (Dilek Hakkani-Tur, Annie Louis, Mikio Nakano, Rebecca J. Passonneau, Gabriel Skantze, Manfred Stede, David Traum, Koichiro Yoshino) and program committee members for committing their time to help us select an excellent technical program. Finally, we thank all the authors who submitted to the conference and all conference participants for making SIGDIAL 2020 a success and for growing the research areas of discourse and dialogue with their fine work.

Olivier Pietquin, General Chair
Smaranda Muresan and Yun-Nung (Vivian) Chen, Program Co-Chairs
General Chair:
Olivier Pietquin, Google Research, France

Program Chairs:
Smaranda Muresan, Columbia University, USA
Vivian Chen, National Taiwan University, Taiwan

Local / Virtual Chair:
Casey Kennington, Boise State University, USA

Sponsorship Chair:
David Vandyke, Apple Inc., United Kingdom

Mentoring Chair:
Nina Dethlefs, University of Hull, United Kingdom

Publication Chair:
Stefan Ultes, Mercedes-Benz AG, Germany

Video Presentation Chair:
Koji Inoue, Kyoto University, Japan
Erik Ekstedt, KTH Royal Institute of Technology, Sweden

SIGdial Officers:
President: Gabriel Skantze, KTH Royal Institute of Technology, Sweden
Vice President: Mikio Nakano, Honda Research Institute, Japan
Secretary: Vikram Ramanarayanan, Educational Testing Service (ETS) Research, USA
Treasurer: Ethan Selfridge, Interactions, USA
President Emeritus: Jason Williams, Apple, USA

Senior Program Committee:
Dilek Hakkani-Tur, Amazon
Annie Louis, Google
Mikio Nakano, Honda Research Institute
Rebecca J. Passonneau, Penn State University
Gabriel Skantze, KTH
Manfred Stede, Universität Potsdam
David Traum, University of Southern California
Koichiro Yoshino, Nara Institute of Science and Technology
Program Committee:

Sean Andrist, Microsoft Research, United States
Masahiro Araki, Kyoto Institute of Technology, Japan
Ron Artstein, USC Institute for Creative Technologies, United States
Yoav Artzi, Cornell University, United States
Timo Baumann, Universität Hamburg, Germany
Frederic Bechet, Aix Marseille Universite - LIS/CNRS, France
Steve Beet, Aculab plc, United Kingdom
Jose Miguel Benedi, Universitàt Politècnica de València, Spain
Luciana Benotti, Universidad Nacional de Cordoba, Argentina
Yonatan Bisk, Carnegie Mellon University, United States
Nate Blaylock, Cerence, United States
Dan Bohus, Microsoft Research, United States
Johan Boye, KTH, Sweden
Chloé Braud, IRIT - CNRS, France
Hendrik Buschmeier, Bielefeld University, Germany
Andrew Caines, University of Cambridge, United Kingdom
Christophe Cerisara, Université de Lorraine, CNRS, LORIA, France
Senthil Chandramohan, Microsoft, United States
Lin Chen, Head of AI, Cambia Health Solutions, United States
Paul Crook, Facebook, United States
Heriberto Cuayahuitl, University of Lincoln, United Kingdom
Nina Dethlefs, University of Hull, United Kingdom
David DeVault, University of Southern California, United States
Barbara Di Eugenio, University of Illinois at Chicago, United States
Jens Edlund, KTH Speech, Music and Hearing, Sweden
Maxine Eskenazi, Carnegie Mellon University, United States
Keelan Evanini, Educational Testing Service, United States
Mauro Falcone, Fondazione Ugo Bordoni, Italy
Michel Galley, Microsoft Research, United States
Milica Gasic, Heinrich Heine University Duesseldorf, Germany
Kalliropi Georgila, University of Southern California, ICT, United States
Alborz Geramifard, Facebook AI, United States
Debanjan Ghosh, Educational Testing Service, United States
Jonathan Ginzburg, Université Paris-Diderot (Paris 7), France
Joakim Gustafson, KTH, Sweden
Ivan Habernal, Technische Universität Darmstadt, Germany
Helen Hastie, Heriot-Watt University, United Kingdom
Michael Heck, Heinrich Heine University, Germany
Behnam Hedayatnia, Amazon, United States
Ryuichiro Higashinaka, NTT Media Intelligence Labs., Japan
Takuya Hiraoka, NEC Central Research Laboratories, Japan
Thomas Howard, University of Rochester, United States
David M. Howcroft, Heriot-Watt University, United Kingdom
Ruihong Huang, Texas A&M University, United States
Michimasa Inaba, The University of Electro-Communications, Japan
Koji Inoue, Kyoto University, Japan
Filip Jurcicek, Apple Inc., United Kingdom
Tatsuya Kawahara, Kyoto University, Japan
Chris Kedzie, Columbia University, United States
Simon Keizer, Toshiba Research Europe Ltd, United Kingdom
Chandra Khatri, Senior AI Research Scientist, Uber AI, United States
Alexander Koller, Saarland University, Germany
Kazunori Komatani, Osaka University, Japan
Ivana Kruijff-Korbayova, DFKI, Germany
Kornel Laskowski, Carnegie Mellon University, United States
Fabrice Lefevre, Avignon Univ., France
Oliver Lemon, Heriot-Watt University, United Kingdom
Junyi Jessy Li, University of Texas at Austin, United States
Pierre Lison, Norwegian Computing Centre, Norway
Bing Liu, Facebook, United States
Eduardo Lleida Solano, University of Zaragoza, Spain
Ramon Lopez-Cozar, University of Granada, Spain
Nurul Lubis, Heinrich Heine University, Germany
Ross Mead, Semio, United States
Teruhisa Misu, Honda Research Institute USA, United States
Seunghwan Moon, Facebook Conversational AI, United States
Raymond Mooney, University of Texas at Austin, United States
Elena Musi, University of Liverpool, United Kingdom
Satoshi Nakamura, Nara Institute of Science and Technology and RIKEN AIP Center, Japan
Vincent Ng, University of Texas at Dallas, United States
Douglas O’Shaughnessy, INRS-EMT (Univ. of Quebec), Canada
Alexandros Papangelis, Uber AI, United States
Cecile Paris, CSIRO, Australia
Nanyun Peng, University of Southern California, United States
Laura Perez-Beltrachini, School of Informatics, University of Edinburgh, United Kingdom
Paul Piwek, The Open University, United Kingdom
Heather Pon-Barry, Mount Holyoke College, United States
Andrei Popescu-Belis, HEIG-VD / HES-SO, Switzerland
Abhinav Rastogi, Google Research, United States
Ehud Reiter, University of Aberdeen, United Kingdom
Norbert Reithinger, DFKI GmbH, Germany
Antonio Roque, Tufts University, United States
Carolyn Rose, Carnegie Mellon University, United States
Clayton Rothwell, Infosicitex Corp., United States
Sakriani Sakti, Nara Institute of Science and Technology (NAIST) / RIKEN AIP, Japan
Ruhi Sarikaya, Amazon, United States
David Schlangen, University of Potsdam, Germany
Ethan Selfridge, Interactions LLC, United States
Georg Stemmer, Intel Corp., Germany
Matthew Stone, Rutgers University, United States
Svetlana Stoyanchev, Toshiba Europe, United Kingdom
Kristina Striegnitz, Union College, United States
Pei-Hao Su, PolyAI, United Kingdom
Hiroaki Sugiyama, NTT Communication Science Labs., Japan
António Teixeira, DETI/IEETA, University of Aveiro, Portugal
Takenobu Tokunaga, Tokyo Institute of Technology, Japan
Bo-Hsiang Tseng, University of Cambridge, United Kingdom
Gokhan Tur, Amazon Alexa AI, United States
Stefan Ultes, Mercedes-Benz AG, Germany
David Vandyke, Apple, United Kingdom
Hsin-Min Wang, Academia Sinica, Taiwan
Yi-Chia Wang, Uber AI, United States
Nigel Ward, University of Texas at El Paso, United States
Jason D Williams, Apple, United States
Tom Williams, Colorado School of Mines, United States
Yen-chen Wu, University of Cambridge, United Kingdom
Steve Young, Cambridge University, United Kingdom
Zhou Yu, University of California, Davis, United States
Kai Yu, Shanghai Jiao Tong University, China
Jian ZHANG, Dongguan University of Technology and Hong Kong University of Science and Technology, China

Secondary Reviewers: Zeyu Dai, Shrey Desai, Sanuj Sharma, Wenlin Yao

Invited Speakers:
Asli Celikyilmaz, Microsoft Research, USA
Diane Litman, University of Pittsburgh, USA
Gabriel Skantze, KTH Royal Institute of Technology, Sweden
Table of Contents

Semantic Guidance of Dialogue Generation with Reinforcement Learning
Cheng-Hsun Hsueh and Wei-Yun Ma ................................................................. 1

Counseling-Style Reflection Generation Using Generative Pretrained Transformers with Augmented Context
Siqi Shen, Charles Welch, Rada Mihalcea and Verónica Pérez-Rosas ...................... 10

Learning from Mistakes: Combining Ontologies via Self-Training for Dialogue Generation
Lena Reed, Vrindavan Harrison, Shereen Oraby, Dilek Hakkani-Tur and Marilyn Walker ...... 21

TripPy: A Triple Copy Strategy for Value Independent Neural Dialog State Tracking
Michael Heck, Carel van Niekerk, Nurul Lubis, Christian Geishauser, Hsien-Chin Lin,
Marco Moresi and Milica Gasic ........................................................................ 35

Conversational Agents for Intelligent Buildings
Weronika Sienińska, Christian Dondrup, Nancie Gunson and Oliver Lemon .................. 45

Retico: An incremental framework for spoken dialogue systems
Thilo Michael ........................................................................................................ 49

MC-Saar-Instruct: a Platform for Minecraft Instruction Giving Agents
Arne Köhn, Julia Wichlacz, Christine Schäfer, Álvaro Torralba, Joerg Hoffmann and
Alexander Koller ................................................................................................. 53

ConvoKit: A Toolkit for the Analysis of Conversations
Jonathan P. Chang, Caleb Chiam, Liye Fu, Andrew Wang, Justine Zhang and
Cristian Danescu-Niculescu-Mizil ................................................................. 57

Commonsense Evidence Generation and Injection in Reading Comprehension
Ye Liu, Tao Yang, Zeyu You, Wei Fan and Philip S. Yu ........................................ 61

Identifying Collaborative Conversations using Latent Discourse Behaviors
Ayush Jain, Maria Pacheco, Steven Lancette, Mahak Goindani and Dan Goldwasser .......... 74

A Case Study of User Communication Styles with Customer Service Agents versus Intelligent Virtual Agents
Timothy Hewitt and Ian Beaver ......................................................................... 79

It’s About Time: Turn-Entry Timing For Situated Human-Robot Dialogue
Felix Gervits, Ravenna Thielstrom, Antonio Roque and Matthias Scheutz ...................... 86

Learning Word Groundings from Humans Facilitated by Robot Emotional Displays
David McNeill and Casey Kennington .................................................................. 97

Learning and Reasoning for Robot Dialog and Navigation Tasks
Keting Lu, Shiqi Zhang, Peter Stone and Xiaoping Chen ........................................ 107

An Attentive Listening System with Android ERICA: Comparison of Autonomous and WOZ Interactions
Koji Inoue, Divesh Lala, Kenta Yamamoto, Shizuka Nakamura, Katsuya Takanashi and
Tatsuya Kawahara ......................................................................................... 118
A Spoken Dialogue System for Spatial Question Answering in a Physical Blocks World
Georgiy Platonov, Lenhart Schubert, Benjamin Kane and Aaron Gindi ............................... 128

rrSDS: Towards a Robot-ready Spoken Dialogue System
Casey Kennington, Daniele Moro, Lucas Marchand, Jake Carns and David McNeill ........ 132

Discovering Knowledge Graph Schema from Short Natural Language Text via Dialog
Subhasis Ghosh, Arpita Kundu, Aniket Pramanick and Indrajit Bhattacharya .................... 136

User Impressions of Questions to Acquire Lexical Knowledge
Kazunori Komatani and Mikio Nakano ................................................................. 147

Simulating Turn-Taking in Conversations with Delayed Transmission
Thilo Michael and Sebastian Möller ................................................................. 157

Is this Dialogue Coherent? Learning from Dialogue Acts and Entities
Alessandra Cervone and Giuseppe Riccardi .............................................................. 162

Analyzing Speaker Strategy in Referential Communication
Brian McMahan and Matthew Stone ............................................................. 175

Contextualized Emotion Recognition in Conversation as Sequence Tagging
Yan Wang, Jiayu Zhang, Jun Ma, Shaojun Wang and Jing Xiao ................................. 186

How Self-Attention Improves Rare Class Performance in a Question-Answering Dialogue Agent
Adam Stiff, Qi Song and Eric Fosler-Lussier .......................................................... 196

Filtering conversations through dialogue acts labels for improving corpus-based convergence studies
Simone Fuscone, Benoît Favre and Laurent Prévot ..................................................... 203

Nontrivial Lexical Convergence in a Geography-Themed Game
Amanda Bergqvist, Ramesh Manuvakurike, Deepthi Karkada and Maike Paetzal .............. 209

A unifying framework for modeling acoustic/prosodic entrainment: definition and evaluation on two large corpora
Ramiro H. Gálvez, Lara Gauder, Jordi Luque and Agustín Gravano ................................... 215

Unsupervised Evaluation of Interactive Dialog with DialoGPT
Shikib Mehr and Maxine Eskenazi .............................................................................. 225

Sarah E. Finch and Jinho D. Choi ................................................................................. 236

Human-Human Health Coaching via Text Messages: Corpus, Annotation, and Analysis
Itika Gupta, Barbara Di Eugenio, Brian Ziebart, Aiswarya Baiju, Bing Liu, Ben Gerber, Lisa Sharp, Nadia Nabulsi and Mary Smart ................................................................. 246

Agent-Based Dynamic Collaboration Support in a Smart Office Space
Yansen Wang, R. Charles Murray, Haogang Bao and Carolyn Rose .............................. 257

Emora STDM: A Versatile Framework for Innovative Dialogue System Development
James D. Finch and Jinho D. Choi ................................................................................ 261

Boosting Naturalness of Language in Task-oriented Dialogues via Adversarial Training
Chenguang Zhu ............................................................................................................. 265
A Sequence-to-sequence Approach for Numerical Slot-filling Dialog Systems
Hongjie Shi ................................................................. 272

Beyond Domain APIs: Task-oriented Conversational Modeling with Unstructured Knowledge Access
Seokhwan Kim, Mihail Eric, Karthik Gopalakrishnan, Behnam Hedayatnia, Yang Liu and Dilek Hakkani-Tur ................................................................. 278

Multi-Action Dialog Policy Learning with Interactive Human Teaching
Megha Jhunjhunwala, Caleb Bryant and Pararth Shah ........................................ 290

Ryuichi Takanobu, Qi Zhu, Jinchao Li, Baolin Peng, Jianfeng Gao and Minlie Huang .... 297

Similarity Scoring for Dialogue Behaviour Comparison
Stefan Ultes and Wolfgang Maier ............................................................... 311

Collection and Analysis of Dialogues Provided by Two Speakers Acting as One
Tsunehiro Arimoto, Ryuichiro Higashinaka, Kou Tanaka, Takahito Kawanishi, Hiroaki Sugiyama, Hiroshi Sawada and Hiroshi Ishiguro .............................................. 323

Adaptive Dialog Policy Learning with Hindsight and User Modeling
Yan Cao, Keting Lu, Xiaoping Chen and Shiqi Zhang ...................................... 329

Dialogue Policies for Learning Board Games through Multimodal Communication
Maryam Zare, Ali Ayub, Aishan Liu, Sweekar Sudhakara, Alan Wagner and Rebecca Passonneau .............................................................. 339
Conference Program

Note that all shown times are GMT-6. Please adjust the times for your local time zone.
All presentations are pre-recorded unless stated otherwise.

Wednesday, 1 July 2020

7:30–7:45 Opening Remarks

7:45–8:30 Keynote 1: Conversational Turn-taking in Human-robot Interaction
Gabriel Skantze

8:30–9:00 Keynote 1: live QA
Gabriel Skantze

9:00–9:30 Break

9:30–10:20 Generation + Task-Oriented Dialogues (1)

Semantic Guidance of Dialogue Generation with Reinforcement Learning
Cheng-Hsun Hsueh and Wei-Yun Ma

Counseling-Style Reflection Generation Using Generative Pretrained Transformers with Augmented Context
Siqi Shen, Charles Welch, Rada Mihalcea and Verónica Pérez-Rosas

Learning from Mistakes: Combining Ontologies via Self-Training for Dialogue Generation
Lena Reed, Vrindavan Harrison, Shereen Oraby, Dilek Hakkani-Tur and Marilyn Walker

TripPy: A Triple Copy Strategy for Value Independent Neural Dialog State Tracking
Michael Heck, Carel van Niekerk, Nurul Lubis, Christian Geishauser, Hsien-Chin Lin, Marco Moresi and Milica Gasic
10:20–10:45 Generation + Task-Oriented Dialogues (1) live QA

10:45–11:30 Demo (1) pre-recorded presentations + live QA

*Conversational Agents for Intelligent Buildings*
Weronika Sieińska, Christian Dondrup, Nancie Gunson and Oliver Lemon

*Retico: An incremental framework for spoken dialogue systems*
Thilo Michael

*MC-Saar-Instruct: a Platform for Minecraft Instruction Giving Agents*
Arne Köhn, Julia Wichlacz, Christine Schäfer, Álvaro Torralba, Joerg Hoffmann and Alexander Koller

*ConvoKit: A Toolkit for the Analysis of Conversations*
Jonathan P. Chang, Caleb Chiam, Liye Fu, Andrew Wang, Justine Zhang and Cristian Danescu-Niculescu-Mizil

11:30–11:50 Break

11:50–12:20 Knowledge Acquisition/Use and Behaviour Modeling (1)

*Commonsense Evidence Generation and Injection in Reading Comprehension*
Ye Liu, Tao Yang, Zeyu You, Wei Fan and Philip S. Yu

*Identifying Collaborative Conversations using Latent Discourse Behaviors*
Ayush Jain, Maria Pacheco, Steven Lancette, Mahak Goidani and Dan Goldwasser

*A Case Study of User Communication Styles with Customer Service Agents versus Intelligent Virtual Agents*
Timothy Hewitt and Ian Beaver
Wednesday, 1 July 2020 (continued)

12:20–12:40  Knowledge Acquisition/Use and Behaviour Modeling (1) live QA

12:40–15:30  Breakout Discussion Sessions

15:30–16:00  Break

16:00–17:00  Special Session: Greetings and Talks

   *It's About Time: Turn-Entry Timing For Situated Human-Robot Dialogue*
   Felix Gervits, Ravenna Thielstrom, Antonio Roque and Matthias Scheutz

   *Learning Word Groundings from Humans Facilitated by Robot Emotional Displays*
   David McNeill and Casey Kennington

   *Learning and Reasoning for Robot Dialog and Navigation Tasks*
   Keting Lu, Shiqi Zhang, Peter Stone and Xiaoping Chen

   *An Attentive Listening System with Android ERICA: Comparison of Autonomous and WOZ Interactions*
   Koji Inoue, Divesh Lala, Kenta Yamamoto, Shizuka Nakamura, Katsuya Takanashi and Tatsuya Kawahara

17:00–17:30  Demo (2) pre-recorded presentations + live QA

   *A Spoken Dialogue System for Spatial Question Answering in a Physical Blocks World*
   Georgiy Platonov, Lenhart Schubert, Benjamin Kane and Aaron Gindi

   *rrSDS: Towards a Robot-ready Spoken Dialogue System*
   Casey Kennington, Daniele Moro, Lucas Marchand, Jake Carns and David McNeill
Wednesday, 1 July 2020 (continued)

17:30–18:15  Special Session: live QA

18:15–19:15  Special Session: Late-breaking

19:15–19:30  Break

19:30–20:15  Breakouts Discussion Sessions

Thursday, 2 July 2020

5:00–5:35  Knowledge Acquisition/Use and Behaviour Modeling (2)

*Discovering Knowledge Graph Schema from Short Natural Language Text via Dialog*
Subhasis Ghosh, Arpita Kundu, Aniket Pramanick and Indrajit Bhattacharya

*User Impressions of Questions to Acquire Lexical Knowledge*
Kazunori Komatani and Mikio Nakano

*Simulating Turn-Taking in Conversations with Delayed Transmission*
Thilo Michael and Sebastian Möller
Thursday, 2 July 2020 (continued)

5:35–6:00 Knowledge Acquisition/Use and Behaviour Modeling (2) live QA

6:00–6:45 Semantic and Pragmatics Modeling

*Is this Dialogue Coherent? Learning from Dialogue Acts and Entities*
Alessandra Cervone and Giuseppe Riccardi

*Analyzing Speaker Strategy in Referential Communication*
Brian McMahan and Matthew Stone

*Contextualized Emotion Recognition in Conversation as Sequence Tagging*
Yan Wang, Jiayu Zhang, Jun Ma, Shaojun Wang and Jing Xiao

*How Self-Attention Improves Rare Class Performance in a Question-Answering Dialogue Agent*
Adam Stiff, Qi Song and Eric Fosler-Lussier

6:45–7:10 Semantic and Pragmatics Modeling live QA

7:10–7:30 Break

7:30–8:00 Modeling Convergence

*Filtering conversations through dialogue acts labels for improving corpus-based convergence studies*
Simone Fuscone, Benoit Favre and Laurent Prévot

*Nontrivial Lexical Convergence in a Geography-Themed Game*
Amanda Bergqvist, Ramesh Manuvinakurike, Deepthi Karkada and Maike Paetzel

*A unifying framework for modeling acoustic/prosodic entrainment: definition and evaluation on two large corpora*
Ramiro H. Gálvez, Lara Gauder, Jordi Luque and Agustín Gravano
Thursday, 2 July 2020 (continued)

8:00–8:20  Modeling Convergence live QA

8:20–8:45  Break

8:45–9:30  Sponsor Booth

9:30–10:15  Breakout Discussion Sessions

10:15–10:45  Break

10:45–11:25  Evaluation + Corpora (1)

  Unsupervised Evaluation of Interactive Dialog with DialoGPT
  Shikib Mehri and Maxine Eskenazi

  Sarah E. Finch and Jinho D. Choi

  Human-Human Health Coaching via Text Messages: Corpus, Annotation, and Analysis
  Itika Gupta, Barbara Di Eugenio, Brian Ziebart, Aiswarya Baiju, Bing Liu, Ben Gerber, Lisa Sharp, Nadia Nabulsi and Mary Smart
Thursday, 2 July 2020 (continued)

11:25–11:50 Evaluation + Corpora (1) live QA

11:50–12:30 Break

12:30–13:00 Demo (3) pre-recorded presentations + live QA

Agent-Based Dynamic Collaboration Support in a Smart Office Space
Yansen Wang, R. Charles Murray, Haogang Bao and Carolyn Rose

Emora STDM: A Versatile Framework for Innovative Dialogue System Development
James D. Finch and Jinho D. Choi

13:00–16:30 Breakout Discussion Sessions

16:30–17:00 Break

17:00–17:45 Keynote 2: Neural Text Generation: Progress and Challenges
Asli Celikyilmaz

17:45–18:15 Keynote 2: live QA
Asli Celikyilmaz

18:15–18:35 Break
Thursday, 2 July 2020 (continued)

18:35–19:15 Generation + Task-Oriented Dialogues (2)

Boosting Naturalness of Language in Task-oriented Dialogues via Adversarial Training
Chenguang Zhu

A Sequence-to-sequence Approach for Numerical Slot-filling Dialog Systems
Hongjie Shi

Beyond Domain APIs: Task-oriented Conversational Modeling with Unstructured Knowledge Access
Seokhwan Kim, Mihail Eric, Karthik Gopalakrishnan, Behnam Hedayatnia, Yang Liu and Dilek Hakkani-Tur

Multi-Action Dialog Policy Learning with Interactive Human Teaching
Megha Jhunjhunwala, Caleb Bryant and Pararth Shah

19:15–19:40 Generation + Task-Oriented Dialogues (2) live QA

Friday, 3 July 2020

5:30–6:05 Evaluation + Corpora (2)

Ryuichi Takanobu, Qi Zhu, Jinchao Li, Baolin Peng, Jianfeng Gao and Minlie Huang

Similarity Scoring for Dialogue Behaviour Comparison
Stefan Ultes and Wolfgang Maier

Collection and Analysis of Dialogues Provided by Two Speakers Acting as One
Tsunehiro Arimoto, Ryuichiro Higashinaka, Kou Tanaka, Takahito Kawanishi, Hiroaki Sugiyama, Hiroshi Sawada and Hiroshi Ishiguro
Friday, 3 July 2020 (continued)

6:05–6:30 Evaluation + Corpora (2) live QA

6:30–6:55 Dialogue Policy

Adaptive Dialog Policy Learning with Hindsight and User Modeling
Yan Cao, Keting Lu, Xiaoping Chen and Shiqi Zhang

Dialogue Policies for Learning Board Games through Multimodal Communication
Maryam Zare, Ali Ayub, Aishan Liu, Sweekar Sudhakara, Alan Wagner and Rebecca Passonneau

6:55–7:10 Dialogue Policy live QA

7:10–7:30 Break

7:30–8:15 Keynote 3: Argument Mining, Discourse Analysis, and Educational Applications
Diane Litman

8:15–8:45 Keynote 3: live QA
Diane Litman

8:45–9:45 Business Meeting, Awards, Closing (live)
Keynote Abstracts

Keynote 1 - Conversational Turn-taking in Human-robot Interaction
Gabriel Skantze
*KTH Royal Institute of Technologies*

Abstract

The last decade has seen a breakthrough for speech interfaces, much thanks to the advancements in speech recognition. Apart from voice assistants in smart speakers and phones, an emerging application area are social robots, which are expected to serve as receptionists, teachers, companions, coworkers, etc. Just like we prefer physical meetings over phone calls and video conferencing, social robots can potentially offer a much richer interaction experience than non-embodied dialogue systems. One example of this is the Furhat robot head, which started as a research project at KTH, but is now used in commercial applications, such as serving as a concierge at airports and performing job interviews. However, even though this recent progress is very exciting, current dialogue systems are still limited in several ways, especially for human-robot interaction. In this talk, I will specifically address the modelling of conversational turn-taking. As current systems lack the sophisticated coordination mechanisms found in human-human interaction, they are often plagued by interruptions or sluggish responses. In a face-to-face conversation, we use various multi-modal signals for this coordination, including linguistic and prosodic cues, as well as gaze and gestures. I will present our work on the use of deep learning for modelling these cues, which can allow the system to predict, and even project, potential turn-shifts. I will also present user studies which show how the robot can regulate turn-taking in multi-party dialogue by employing various turn-taking signals. This can be used to both facilitate a smoother interaction, as well as shaping the turn-taking dynamics and participation equality in multi-party settings.

Biography

Gabriel Skantze is professor in speech technology with a specialization in dialogue systems at KTH Royal Institute of Technology. His research focuses on the development of computational models for situated dialogue and human-robot interaction. He is also co-founder and chief scientist at Furhat Robotics, a startup based in Stockholm developing a platform for social robotics. Since 2019, he is the president of SIGdial.
Keynote 2 - Neural Text Generation: Progress and Challenges
Asli Celikyilmaz
Microsoft Research

Abstract

Automatic text generation enables computers to summarize text, describe pictures to visually impaired, write stories or articles about an event, have conversations in customer-service, chit-chat with individuals, and other settings, etc. Neural text generation – using neural network models to generate coherent text – have seen a paradigm shift in the last years, caused by the advances in deep contextual language modeling (e.g., LSTMs, GPT) and transfer learning (e.g., ELMO, BERT). While these tools have dramatically improved the state of text generation, particularly for low resource tasks, state-of-the-art neural text generation models still face many challenges: a lack of diversity in generated text, commonsense violations in depicted situations, difficulties in making use of multi-modal input, and many more. I will discuss existing technology to generate text with better discourse structure, narrative flow, or one that can use world knowledge more intelligently. I will conclude the talk with a discussion of current challenges and shortcomings of neural text generation, pointing to avenues for future research.

Biography

Asli Celikyilmaz is a Principal Researcher at Microsoft Research (MSR) in Redmond, Washington. She is also an Affiliate Professor at the University of Washington. She has received Ph.D. Degree in Information Science from University of Toronto, Canada, and later continued her Postdoc study at Computer Science Department of the University of California, Berkeley. Her research interests are mainly in deep learning and natural language, specifically on language generation with long-term coherence, language understanding, language grounding with vision, and building intelligent agents for human-computer interaction. She is serving on the editorial boards of Transactions of the ACL (TACL) as area editor and Open Journal of Signal Processing (OJSP) as Associate Editor. She has received several “best of” awards including NAFIPS 2007, Semantic Computing 2009, and CVPR 2019.
Abstract

The written and spoken arguments of students are educational data that can be automatically mined for purposes such as student assessment or teacher professional development. This talk will illustrate some of the opportunities and challenges in educationally-oriented argument mining. I will first describe how we are using discourse analysis to improve argument mining systems that are being embedded in educational technologies for essay grading and for analyzing classroom discussions. I will then present intrinsic and extrinsic evaluation results for two of our argument mining systems, using benchmark persuasive essay corpora as well as our recently released Discussion Tracker corpus of collaborative argumentation in high school classrooms.

Biography

Diane Litman is Professor of Computer Science, Senior Scientist with the Learning Research and Development Center, and Faculty Co-Director of the Graduate Program in Intelligent Systems, all at the University of Pittsburgh. Her current research focuses on enhancing the effectiveness of educational technology through the use of spoken and natural language processing techniques such as argument mining, summarization, multi-party dialogue systems, and revision analysis. She is a Fellow of the Association for Computational Linguistics, has twice been elected Chair of the North American Chapter of the Association for Computational Linguistics, has co-authored multiple papers winning best paper awards, and was the SIGdial Program Co-Chair in 2018.