Introduction

Welcome to the ACL 2020 Workshop on NLP for Medical Conversations.

Primary care physicians spend nearly two hours on creating and updating electronic medical/health records (EMR/EHR) for every one hour of direct patient care. Additional administrative and regulatory work has contributed to dissatisfaction, high attrition rates and a burnout rate exceeding 44% among medical practitioners. Recent research has also linked burnout to medical errors, showing doctors who report signs of burnout are twice as likely to have made a medical error. It is imperative to find a solution to minimize causes of such errors, via better tooling and visualization or by providing automated decision support assistants to medical practitioners.

First steps towards introducing automation for clinical documentation have recently emerged. These include approaches from end-to-end clinical documentation to the development of a dialog system with virtual patients for physician training. Commercial products include offerings from large corporations like Microsoft, Nuance, Amazon, and Google to many upcoming startups.

The goal of this workshop is to bring together NLP researchers and medical practitioners, along with experts in machine learning, to discuss the current state-of-the-art approaches, to share their insights and discuss challenges. This is critical in order to bridge existing gaps between research and real-world product deployments, this will further shed light on future directions. This will be a one-day workshop including keynotes, spotlight talks, posters, and panel sessions.

Our call for papers for this inaugural workshop met with a strong response. We received 20 paper submissions, of which we accepted 9 papers with acceptance rate of 45%. Our program covers a broad spectrum of applications and techniques. It was augmented by invited talks from Tanuj Gupta (Cerner), Adam Miner (Stanford), Anitha Kannan (Curai), Steven Bendrick (OHU) and Judy Chang (UPSM).
Organizers:
Parminder Bhatia (Amazon)
Byron Wallace (Northeastern University)
Izhak Shafran (Google)
Mona Diab (Facebook)
Steven Lin (Stanford)
Chaitanya Shivade (Amazon)
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Invited Speaker:
Tanuj Gupta (Cerner)
Adam Miner (Stanford)
Anitha Kannan (Curai)
Steven Bendrick (OHU)
Judy Chang (UPSM)
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Friday, July 10, 2020

09:00–10:30 Morning Session I

09:00–09:15 Welcome and Opening Remarks
Tanuj Gupta

09:15–10:00 Invited Talk
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10:00–10:15 Methods for Extracting Information from Messages from Primary Care Providers to Specialists
Anirudh Mani, Shruti Palaskar and Sandeep Konam

10:15–10:30 Towards Understanding ASR Error Correction for Medical Conversations

11:00–12:30 Morning Session II

11:00–11:45 Invited Talk
Anitha Kannan

11:45–12:30 Invited Talk
Steven Bendrick
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13:30–15:30 Afternoon Session I

13:30–14:15 Invited Talk
Judy Chang

14:15–14:30 Studying Challenges in Medical Conversation with Structured Annotation
Nan Wang, Yan Song and Fei Xia

14:30–14:45 Generating Medical Reports from Patient-Doctor Conversations Using Sequence-to-Sequence Models
Seppo Enarvi, Marilisa Amoia, Miguel Del-Agua Teba, Brian Delaney, Frank Diehl, Stefan Hahn, Kristina Harris, Liam McGrath, Yue Pan, Joel Pinto, Luca Rubini, Miguel Ruiz, Gagandep Singh, Fabian Stemmer, Wenyi Sun, Paul Vozila, Thomas Lin and Ranjani Ramamurthy

14:45–15:00 Towards an Ontology-based Medication Conversational Agent for PrEP and PEP
Muhammad Amith, Licong Cui, Kirk Roberts and Cui Tao

15:00–15:15 Heart Failure Education of African American and Hispanic/Latino Patients: Data Collection and Analysis
Itika Gupta, Barbara Di Eugenio, Devika Salunke, Andrew Boyd, Paula Allen-Meares, Carolyn Dickens and Olga Garcia

Michael Neumann, Oliver Roessler, David Suendermann-Oeft and Vikram Ramnarayan

16:00–18:00 Afternoon Session II

16:00–16:45 Invited Talk
Adam Miner

16:45–17:15 Lightning Talk

17:15–17:30 Robust Prediction of Punctuation and Truecasing for Medical ASR
Monica Sunkara, Srikanth Ronanki, Kalpit Dixit, Sravan Bodapati and Katrin Kirchhoff

17:30–17:45 Topic-Based Measures of Conversation for Detecting Mild Cognitive Impairment
Meysam Asgari, Liu Chen and Hiroko Dodge

17:45–18:00 Closing Remarks