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Proceedings of the Second Workshop on Computational Approaches to Deception Detection CADD 2016

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Introduction

This is the second Workshop on Computational Approaches to Deception Detection. In the first edition, held in 2012 at the European Chapter of the Association for Computational Linguistics in Avignon (France), for the first time an event was specifically dedicated to the use of computational linguistics methods for the challenges of deception detection. Indeed four years ago we collected the experience of a growing literature, which in the last 15 years began to show both the potential of NLP techniques for the evaluation of truthfulness in communication and, in parallel, possible solutions to the many challenges of the field, such as the data collection, the estimation of the ground truth, the identification of effective linguistic features and so on.

Since the beginning we were aware that the complexity of the task and the plurality of the contexts where deception can take place required a multidisciplinary approach. The present Workshop represents a step forward in that direction. We received 7 high quality submissions, accepted as papers and, in one case, for a further short tutorial. The topics range from methodological issues, to the application of NLP in a number of specific environments, such as social media, or domains that involve particular cases of deceptive information. Personal characteristics of the subjects are also considered, and their relation with linguistic and behavioral style in deceptive messages are studied. We are also pleased that methods used in typically non language-centric disciplines, such as economics, are now proposed in the field of deception detection, which suggests the possibility of new synergies between different but significant fields of research. As a total picture, we see a lively cultural environment, where new ideas arise and are brought face to face in order to facilitate and to promote the development of new solutions for the evaluation of human communication.

We would like to thank NAACL for its endorsement of the workshop. We would also like to thank the NAACL workshop co-chairs, Radu Soricut and Adrià de Gispert, and the Local Arrangements Chair, Priscilla Rasmussen, for their support. Most of all, we would like to thank our enthusiastic program committee members for their timely and thoughtful review comments. Without them, this workshop on Computational Approaches to Deception Detection could not be implemented successfully.

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Tommaso Fornaciari, Italian National Police, Italy

Eileen Fitzpatrick. Montclair State University, Montclair NJ USA

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Carlo Strapparava, Fondazione Bruno Kessler

Lina Zhou, University of Maryland

Invited Speaker:

Rada Mihalcea, University of Michigan

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Conference Program

Friday, June 17, 2016

9:00-10:00, keynote:

Multimodal Deception Detection using Real-life Trial Data
Rada Mihalcea

10:00-11:45, session 1

Account Deletion Prediction on RuNet: A Case Study of Suspicious Twitter Accounts Active During the Russian-Ukrainian Crisis
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Using the verifiability of details as a test of deception: A conceptual framework for the automation of the verifiability approach
Bennett Kleinberg, Galit Nahari and Bruno Verschuere

11:45-12:00, Break
12:00-13:10, session 2

Estimating the Amenibility of New Domains for Deception Detection
Eileen Fitzpatrick and Joan Bachenko

The Use of Second Life for Deception Detection Research
Stephen Kunath and Kevin McCabe

13:10-15:00, Break
15:00-16:10, Session 3

Identifying Individual Differences in Gender, Ethnicity, and Personality from Dialogue for Deception Detection
Sarah Ita Levitan, Yocheved Levitan, Guozhen An, Michelle Levine, Rivka Levitan, Andrew Rosenberg and Julia Hirschberg

Individual Differences in Strategic Deception
Scott Appling and Erica Briscoe

16:10-17:00, Demo

The Use of Second Life for Deception Detection Research
Stephen Kunath and Kevin McCabe

17:00-17:30, discussion

Keynote

Multimodal Deception Detection using Real-life Trial Data

With thousands of trials and verdicts occurring daily in courtrooms around the world, the chance of using deceptive statements and testimonies as evidence is growing. In this talk, I will address the identification of deception in real-life trial data. I will present a novel dataset consisting of videos collected from public court trials, and describe a multimodal deception detection system that relies on verbal and non-verbal clues to discriminate between truthful and deceptive statements provided by defendants and witnesses. The system achieves a classification accuracy in the range of 60-75%, which exceeds by a large margin the non-expert human performance on this task. I will also describe our efforts to develop deception detection algorithms including additional modalities such as physiological sensing and thermal imaging.

This is joint work with Mihai Burzo, Mohamed Abouelenien, and Veronica Perez-Rosas.

Rada Mihalcea is a Professor in the Computer Science and Engineering department at the University of Michigan. Her research interests are in computational linguistics, with a focus on lexical semantics, multilingual natural language processing, and computational social sciences. She serves or has served on the editorial boards of the Journals of Computational Linguistics, Language Resources and Evaluations, Natural Language Engineering, Research in Language in Computation, IEEE Transactions on Affective Computing, and Transactions of the Association for Computational Linguistics. She was a program co-chair for the Conference of the Association for Computational Linguistics (2011) and the Conference on Empirical Methods in Natural Language Processing (2009), and a general chair for the Conference of the North American Chapter of the Association for Computational Linguistics (2015). She is the recipient of a National Science Foundation CAREER award (2008) and a Presidential Early Career Award for Scientists and Engineers (2009). In 2013, she was made an honorary citizen of her hometown of Cluj-Napoca, Romania.