

NL4XAI 2019

**1st Workshop on Interactive Natural Language Technology
for Explainable Artificial Intelligence**

Proceedings of the Workshop

October 29, 2019
Tokyo, Japan

Endorsed by SIGGEN.



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Introduction

Welcome to the Proceedings of the 1st Workshop on Interactive Natural Language Technology for Explainable Artificial Intelligence (NL4XAI 2019)!

In the era of the Internet of Things and Big Data, Artificial Intelligence (AI) techniques allow us to automatically extract knowledge from data. This workshop focuses on the automatic generation of interactive explanations in natural language (NL), as humans naturally do, and as a complement to visualization tools. NL technologies, both NL Generation (NLG) and NL Processing (NLP) techniques, are expected to enhance knowledge extraction and representation through human-machine interaction (HMI). As remarked in the last challenge stated by the USA Defense Advanced Research Projects Agency (DARPA), "even though current AI systems offer many benefits in many applications, their effectiveness is limited by a lack of explanation ability when interacting with humans". Accordingly, users without a strong background on AI, require a new generation of Explainable AI systems. They are expected to naturally interact with humans, thus providing comprehensible explanations of decisions automatically made. The ultimate goal is building trustworthy AI that is beneficial to people through fairness, transparency and explainability. To achieve it, not only technical but also ethical and legal issues must be carefully considered.

The workshop will be held as part of the International Conference on Natural Language Generation (INLG2019), which is supported by the Special Interest Group on NLG of the Association for Computational Linguistics. INLG 2019 is to be held in Tokyo (Japan), 29 October - 1 November, 2019. This is the first of a series of workshops to be organized in the next years in the context of the European project NL4XAI (<https://nl4xai.eu/>).

This half-day workshop goes a step ahead of the workshop 2IS&NLG that we co-organized with Mariët Theune at INLG2018. We have narrowed the workshop topic to become a specialized event on Explainable AI. In this sense, the workshop follows the line started with the workshop XCI at INLG2017. Moreover, this workshop follows a series of thematic special sessions in international conferences such as Advances on Explainable AI at FUZZ-IEEE2019, Advances on Explainable AI at IPMU2018, and many other related sessions at IFSA-EUSFLAT 2009, ISDA 2009, WCCI 2010, WILF 2011, ESTYLF 2012, WCCI 2012, EUSFLAT 2013, IFSA-EUSFLAT2015, and FUZZ-IEEE2017.

Thus, the aim of this workshop is to provide a forum to disseminate and discuss recent advances on Explainable AI. We expect to identify challenges and explore potential transfer opportunities between related fields, generating synergy and symbiotic collaborations in the context of Explainable AI, HMI and Language Generation.

We received 10 submissions (8 regular papers and 2 demos). 4 regular submissions were accepted after a double blind peer review, whereas 2 demos have been included in the program. In addition, NL4XAI 2019 included an invited talk by Dr. Saad Mahamood (*trivago*) to talk about the potential of XAI within industry; and a round table to strengthen the open discussion on the challenges, involving Claire Gardent, Albert Gatt, Ehud Reiter and Jose M. Alonso as panelists.

We would like to thank to all authors for submitting their contributions to our workshop. We thank the program committee members for their work at reviewing the papers and their support during the organization.

Jose M. Alonso and Alejandro Catala
NL4XAI 2019 Organizers

Workshop Organizers:

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Alejandro Catala

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Nava Tintarev, Technische University of Delft
Hitoshi Yano, Minsait, INDRA

Invited Speaker:

Saad Mahamood, trivago N.V.

Panelists:

Ehud Reiter (Moderator)
Claire Gardent
Albert Gatt
Jose M. Alonso

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Workshop Program

Tuesday, October 29, 2019

10:00–10:10 Welcome and brief presentation of NL4XAI project

10:10–11:00 Keynote Talk (Saad Mahamood)

11:00–11:30 Oral Presentations I

11:30–11:50 Coffee/Tea Break

11:50–12:20 Oral Presentations II

12:20–12:40 Demo session

12:40–13:20 Round Table

13:20–13:30 Concluding remarks and farewell

The NL4XAI @ INLG 2019 workshop will take place at the National Museum of Emerging Science and Innovation (Miraikan) in Tokyo, Japan, on Tuesday 29th October. Floor 7F, room Saturn.

