

IJCAI-ECAI Workshop Semantic Techniques for Narrative-based Understanding

July 24, 2022
Vienna, Austria

Editors

Lise Stork (Vrije Universiteit Amsterdam)

Katrien Beuls (Université de Namur)

Luc Steels (Venice International University)

<https://www.muhaï.org>

Preface

This workshop explored how AI systems can employ narratives in the realization of human-centric AI. Human-centric AI focuses on collaborating with humans, enhancing human capabilities, and empowering humans to better achieve their goals. This requires that we complement the reactive intelligence of today’s neuro-statistical machine learning with deliberative intelligence based on rich models of the problem situation: computational representations of narratives, elaborate ontologies, fine-grained semantic parsing inspired by cognitive linguistics and construction grammar, reasoning and inference, mental simulation, the consultation of semantic resources such as knowledge graphs and episodic memories of past situations, and a control architecture that can flexibly combine all these knowledge sources to arrive at coherent understanding.

Besides technical contributions to realize the components needed for understanding, we encouraged the presentation of benchmarks as well as demonstrations of AI systems in which narrative-based understanding plays a critical role, such as the decoding and execution of actions needed for everyday activities (e.g. to cook a dish from a recipe), the reconstruction of the temporal and causal relations found in documents (e.g. between historical events leading up to a significant political change), or the formulation of ‘scientific storylines’ in knowledge discovery that combine information across different scientific papers to generate hypotheses or compare and validate experimental evidence.

Invited talks

Representing Narratives in Digital Libraries: The Narrative Ontology (Carlo Meghini)

The Art of Binding: Making Narrative Overlays Plausible (Hermann Kroll)

Poster presentations

Transient Narrative Networks and Information Landscapes for Enhancing Human Understanding (Remi van Trijp)

Narrative Objects (Mihai Pomarlan and Robert Porzel)

Explain Your Clusters with Words. The Role of Metadata in Interactive Clustering (Maciej Mozolewski, Samaneh Jamshidi, Szymon Bobek and Grzegorz J. Nalepa)

Hybrid Procedural Semantics for Visual Dialogue: An Interactive Web Demonstration (Lara Verheyen, Jérôme Botoko Ekila, Jens Nevens, Paul Van Eecke and Katrien Beuls)

Building a French Revolution Narrative from Wikidata (Inès Blin)

Towards Conflictual Narrative Mechanics (Laura Spillner, Carlo Santagiustina, Thomas Mildner and Robert Porzel)

Detecting Traces of Narrative Evolution on Telegram: Inductive Methods from Corpus-Based Discourse Analysis (Tom Willaert)

An Experiment in Measuring Understanding(Luc Steels, Lara Verheyen and Remi van Trijp)

This workshop took place on July 24, 2022 in Vienna (Austria). We are truly grateful to the IJCAI-ECAI workshop chairs for their help in the organization of this event. We are greatly indebted to the scientific committee for their reviews and suggestions for improving the accepted contributions.

Lise Stork
Katrien Beuls
Luc Steels

Organising Committee

Lise Stork (Free University of Amsterdam, NL)

Katrien Beuls (University of Namur, BE)

Luc Steels (Venice International University, IT)

Scientific Committee

Robert Porzel (University of Bremen, DE)

Frank van Harmelen (Free University of Amsterdam, NL)

Paul Van Eecke (Vrije Universiteit Brussel, BE)

Remi van Trijp (Sony Computer Science Laboratories Paris, FR)

Piek Vossen (Free University of Amsterdam, NL)

Alipio M. Jorge (University of Porto, PT)

Nancy Chang (Google, Mountain View, USA)