6th Workshop on Computational Models of Narrative

CMN 2015, May 26-28, 2015, Atlanta, U.S.A.

Edited by

Mark A. Finlayson Ben Miller Antonio Lieto Remi Ronfard



Editors

Mark A. Finlayson Florida International University

School of Computing and Information Sciences

Miami, FL, U.S.A. markaf@fiu.edu

Antonio Lieto

Department of Computer Science

University of Torino Torino, Italy

lieto@di.unito.it

Ben Miller

Georgia State University Department of English Atlanta, Georgia, U.S.A. miller@gsu.edu

Rémi Ronfard

Centre de recherche INRIA

IMAGINE Laboratoire Jean Kuntzmann

Grenoble, France

remi.ronfard@inria.fr

ACM Classification 1998

F.4.1 Knowledge Representation Formalisms and Methods, I.2: Artificial Intelligence, I.2.0 General/Cognitive simulation, I.2.7 Natural Language Processing, I.6 Simulation and Modeling, I.2.8 Problem Solving, Control Methods, and Search, I.2.11 Distributed Artificial Intelligence, J.4 Psychology, J.5 Literature

ISBN 978-3-939897-93-4

Published online and open access by

Schloss Dagstuhl – Leibniz-Zentrum für Informatik GmbH, Dagstuhl Publishing, Saarbrücken/Wadern, Germany. Online available at http://www.dagstuhl.de/dagpub/978-3-939897-93-4.

Publication date

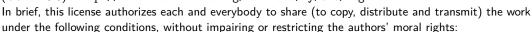
July, 2015

Bibliographic information published by the Deutsche Nationalbibliothek

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at http://dnb.d-nb.de.

License

This work is licensed under a Creative Commons Attribution 3.0 Unported license (CC-BY 3.0): http://creativecommons.org/licenses/by/3.0/legalcode.



Attribution: The work must be attributed to its authors.

The copyright is retained by the corresponding authors.

Digital Object Identifier: 10.4230/OASIcs.CMN.2015.i

ISBN 978-3-939897-93-4

ISSN 2190-6807

http://www.dagstuhl.de/oasics



OASIcs - OpenAccess Series in Informatics

OASIcs aims at a suitable publication venue to publish peer-reviewed collections of papers emerging from a scientific event. OASIcs volumes are published according to the principle of Open Access, i.e., they are available online and free of charge.

Editorial Board

- Daniel Cremers (TU München, Germany)
- Barbara Hammer (Universität Bielefeld, Germany)
- Marc Langheinrich (Università della Svizzera Italiana Lugano, Switzerland)
- Dorothea Wagner (Editor-in-Chief, Karlsruher Institut für Technologie, Germany)

ISSN 2190-6807

www.dagstuhl.de/oasics

Contents

Preface Mark A. Finlayson, Ben Miller	vii
Invited Talk	
Tell Me a Story: Toward More Expressive and Coherent Computational Narratives Janet H. Murray	1
Regular Papers	
From Episodic Memory to Narrative in a Cognitive Architecture Tory S. Anderson	2
Optimal Eventfulness of Narratives Fritz Breithaupt, Eleanor Brower, and Sarah Whaley	12
The Evolution of Interpretive Contexts in Stories Beth Cardier	23
Structured Narratives as a Framework for Journalism: A Work in Progress David A. Caswell	39
Impulse: A Formal Characterization of Story Markus Eger, Camille Barot, and R. Michael Young	45
Schemas for Narrative Generation Mined from Existing Descriptions of Plot Pablo Gervás, Carlos León, and Gonzalo Méndez	54
Imaginative Recall with Story Intention Graphs Sarah Harmon and Arnav Jhala	72
Animacy Detection in Stories Folgert Karsdorp, Marten van der Meulen, Theo Meder, and Antal van den Bosch	82
The Love Equation: Computational Modeling of Romantic Relationships in French Classical Drama	
Folgert Karsdorp, Mike Kestemont, Christof Schöch, and Antal van den Bosch	98
Learning Components of Computational Models from Texts Marjorie McShane, Sergei Nirenburg, Bruce Jarrell, and George Fantry	108
Cross-Document Narrative Frame Alignment Ben Miller, Ayush Shrestha, Jennifer Olive, and Shakthidhar Gopavaram	124
Towards Narrative-Based Knowledge Representation in Cognitive Systems $Nicolas\ Szilas$	133
6th Workshop on Computational Models of Narrative (CMN'15). Editors: Mark A. Finlayson, Ben Miller, Antonio Lieto, and Remi Ronfard OpenAccess Series in Informatics OASICS Schloss Dagstuhl – Leibniz-Zentrum für Informatik, Dagstuhl Publishing, Germany	

vi Contents

Governing Narrative Events With Institutional Norms Matt Thompson, Julian Padget, and Steve Battle	142
Good Timing for Computational Models of Narrative Discourse David R. Winer, Adam A. Amos-Binks, Camille Barot, and R. Michael Young \dots	152
Model-based Story Summary Patrick Henry Winston	157

Preface

Welcome to the Sixth Workshop on Computational Models of Narrative. This year finds us co-located with the Third Annual Conference of Advanced in Cognitive Systems (CogSys 2015). This association made it appropriate to have a special focus on the intersection of cognitive systems and narrative. This intersection is rich and broad, covering the gamut from psychological and cognitive impact of narratives to our ability to model narrative responses computationally. Papers contributed to this volume tackle questions of narrative analysis in the domains of medical information and journalism, and of various story generation systems and frameworks. They look to extend prior paradigms, in one case connecting event segmentation theory to the computational modeling of narrative, and in another, proposing a model for synthesizing temporal, ontological, and psychological aspects of story. And they report on experiments such as the application of syntactic and semantic feature detection to the exploration of higher-level storytelling tropes such as romantic love and animacy.

Interest in and submissions to the CMN workshop remain robust. This year we received 22 submissions; of these 6 were declined. In keeping with our goal of inclusiveness, 16 papers were accepted, some on condition of revision. None of these revised papers were declined after revision, although one paper was withdrawn. Including one additional keynote abstract brings the total number of published works in this proceedings to 16. Over seven years, six meetings, and five volumes of proceedings, the CMN workshop series has published 118 works. This sustained pace demonstrates the consistent relevance of the workshop series and its contributions to the field.

Last year, in an effort to ensure the longevity and continued vitality of the workshop series, a transition period began from Mark Finlayson being the primary steward to a more formal organizational structure. A steering committee is being established comprised of former organizers and co-organizers of the workshop. We began a 'staged' organization arrangement, where those who volunteer to be lead organizer of the workshop in year X are co-organizing the workshop in year X-1. This arrangement led to this year's workshop being organized by the committee of Mark Finlayson, Ben Miller, Remi Ronfard, and Antonio Lieto. This structure has helped the new organizers learn the ropes and lent continuity to the series.

We are also please to announce the winner of our best paper award. The award and a \$250 check goes to Mr. Folgert Karsdrop for his paper "Animacy Detection in Stories", co-authored with Marten van der Meulen, Theo Meder, and Antal van den Bosch.

Many thanks to our generous sponsors without whom this year's workshop would not have been possible: The Georgia Institute of Technology has graciously provided the workshop venue, and supplemental funding was provided by the Department of English and the Creative Media Industries Institute at Georgia State University.

Mark Finlayson & Ben Miller

List of Authors

Adam A. Amos-Binks North Carolina State University Raleigh, NC, U.S.A. aaamosbi@ncsu.edu

Tory S. Anderson Georgia Institute of Technology Atlanta, GA, U.S.A. torys.anderson@gatech.edu

Camille Barot North Carolina State University Raleigh, NC, U.S.A. cbarot@ncsu.edu

Steve Battle
Sysemia Ltd
Bristol, United Kingdom
steve.battle@sysemia.co.uk

Fritz Breithaupt Indiana University Bloomington, IN, U.S.A. fbreitha@indiana.edu

Eleanor Brower Indiana University Bloomington, IN, U.S.A.

Beth Cardier Sirius Beta Inc. Virginia Beach, VA, U.S.A. bethcardier@sirius-beta.com

David A. Caswell Structured Stories Los Angeles, CA, U.S.A. david@structuredstories.com

Markus Eger North Carolina State University Raleigh, NC, U.S.A. meger@ncsu.edu

George Fantry University of Maryland, Baltimore, MD, U.S.A. Gfantry@medicine.umaryland.edu Pablo Gervás Universidad Complutense de Madrid Madrid, Spain pgervas@ucm.es

Shakthidhar Gopavaram Georgia State University Atlanta, GA, U.S.A sgopavaram1@cs.gsu.edu

Folgert Karsdorp
Meertens Institute
Amsterdam, The Netherlands
folgert.karsdorp@meertens.knaw.nl

Mike Kestemont University of Antwerp Antwerp, Belgium mike.kestemont@uantwerp.be

Arnav Jhala University of California Santa Cruz, CA, U.S.A.

jhala@soe.ucsc.edu

Bruce Jarrell University of Maryland Baltimore, MD, U.S.A. bjarrell@umaryland.edu

Sarah Harmon University of California Santa Cruz, CA, U.S.A. smharmon@ucsc.edu

Carlos León Universidad Complutense de Madrid Madrid, Spain cleon@ucm.es

Marjorie McShane Rensselaer Polytechnic Institute Troy, NY, U.S.A. mcsham2@rpi.edu

Gonzalo Méndez Universidad Complutense de Madrid Madrid, Spain gmendez@ucm.es

6th Workshop on Computational Models of Narrative (CMN'15). Editors: Mark A. Finlayson, Ben Miller, Antonio Lieto, and Remi Ronfard OpenAccess Series in Informatics

OASICS Schloss Dagstuhl – Leibniz-Zentrum für Informatik, Dagstuhl Publishing, Germany

x Authors

Theo Meder
Meertens Institute
Amsterdam, The Netherlands
theo.meder@meertens.knaw.nl

Ben Miller Georgia State University Atlanta, GA, U.S.A miller@gsu.edu

Sergei Nirenburg Rensselaer Polytechnic Institute Troy, NY, U.S.A. nirens@rpi.edu

Jennifer Olive Georgia State University Atlanta, GA, U.S.A jolive1@gsu.edu

Julian Padget University of Bath Bath, United Kingdom mrt32@bath.ac.uk

Christof Schöch University of Würzburg Würzburg, Germany c.schoech@gmail.com

Ayush Shrestha Georgia State University Atlanta, GA, U.S.A ayush.shrestha@gmail.com

Nicolas Szilas University of Geneva Genève 4 Switzerland Nicolas.Szilas@unige.ch

Matt Thompson University of Bath Bath, United Kingdom asjap@bath.ac.uk

Marten van der Meulen Meertens Institute

Amsterdam, The Netherlands

marten.van.der.meulen@meertens.knaw.nl

Antal van den Bosch Radboud University Nijmegen, The Netherlands a.vandenbosch@let.ru.nl R. Michael Young North Carolina State University Raleigh, NC, U.S.A. rmyoung@ncsu.edu

Sarah Whaley Indiana University Bloomington, IN, U.S.A.

David R. Winer North Carolina State University Raleigh, NC, U.S.A. drwiner@ncsu.edu

Patrick H. Winston Massachusetts Institute of Technology Cambridge, MA, U.S.A. phw@mit.edu