Graph Technologies in the Humanities

Proceedings 2020

Edited by

Tara Andrews, Franziska Diehr, Thomas Efer, Andreas Kuczera, and Joris van Zundert

2020

February 21-22, Vienna, Austria University of Vienna

Program Committee 2020

Tara Andrews, 10

University of Vienna, Austria

Franziska Diehr, D

Freie Universität Berlin, Germany

Thomas Efer, •

Saxon Academy of Sciences and Humanities, Leipzig, Germany

Andreas Kuczera, 10

University of Applied Science (THM), Gießen, Germany

Joris van Zundert, D

KNAW Huygens Institute, Amsterdam, Netherlands

The publication of this volume was funded by **DHd Verband** – **Digital Humanities im deutschsprachigen Raum e.V.** and the **Academy of Sciences and Literature** | **Mainz**.

Graph Technologies in the Humanities – Proceedings 2020

Edited by: Tara Andrews, Franziska Diehr, Thomas Efer, Andreas Kuczera, and Joris van Zundert.

Published in 2022 at http://ceur-ws.org



This work is licensed under a Creative Commons Attribution 4.0 International License.

Graph Technologies in the Humanities Proceedings 2020

- Preface -

The conference series "Graph Technologies in the Humanities" was launched in 2017 in Mainz, Germany, where it was held annually until 2019 at the Academy of Sciences and Literature. At the kind invitation of the University of Vienna, the conference changed venues for the first time in February 2020.

Since its beginning, the conference series has been providing a forum for the ever-growing community of users of graph and network technologies, promoting exchanges about, and also critical consideration of, the technologies and methodologies discussed here.

The proceedings of the 2020 conference give an eclectic and inspiring overview of what is happening at the forefront of the field. The 15 selected papers, which underwent open peer review by the program committee, illustrate the performativity and versatility of graph technologies and their application in the humanities. With a focus on technology and methods, the volume presents investigations into an extraordinary variety of research objects such as archaeological findings and burials, archival materials, book illustrations, historical texts and writing systems, parliamentary debates, ink drawings, and economic crimes. Another key concern is the way in which graph technologies can be used to support the research process on various levels.

The papers assembled here provide insight into the practical application of graph databases for the analysis of small and large data sets, graph-based modeling and semantic data enrichment, and the analysis of networked data. With their diverse topics and approaches, they highlight the great potential and immediate usability of graph-based technologies and methods for the humanities, and contribute to the dissemination of, and also critical engagement with, these technologies and methods.

We wish our readers an enjoyable experience acquainting themselves with the field and its exciting, new developments. Your interest underlines the topicality and relevance of the technologies and methods discussed in this volume, as well as their fields of application in the (digital) humanities.

¹https://graphentechnologien.hypotheses.org/tagungen

Acknowledgements

For the steadily growing community of users of graph and network technologies, the conference series has provided a space for the discussion and exchange of experiences, and fostered new and exciting ideas for various research fields in the (digital) humanities. This would not have been possible without the efforts and generous support of the organizers. We would therefore like to extend a special thank you to the **University of Vienna** (2020) for preparing and hosting the conference in 2020 and the **Academy of Sciences and Literature** | **Mainz** (2019) for hosting all the previous conferences of the series.

We greatly thank the association **DHd** – **Digital Humanities im deutschsprachigen Raum e.V.** for their financial support in the publication of this project, without whose funding the volume could not have been realized, the **Academy of Sciences and Literature** | **Mainz** for their additional sponsorship, and the **CEUR-WS.org** team for provding a home for these proceedings through their free and open access publication service.

We would like to thank all authors for their contributions and for their patience with the publication process. We are also very grateful to Martin Bleisteiner and Gabriella Szalay for their incredible work on copyediting, and to Viktor Illmer and Marina Lehmann for their editorial assistance.

— Tara Andrews, Franziska Diehr, Thomas Efer, Andreas Kuczera, and Joris van Zundert

A special word of thanks is in order for our invaluable **editor in chief**, **Franziska Diehr**. Without Franziska's enduring, and might we add undaunted, effort nothing of these proceedings would have made it to publication stage. Franziska was part of the Program Committee for the conference until 2021 and in that role was also pivotal for the success of the conferences. We are greatly indebted to her zeal, stamina, and inspiration. (*TA*, *TE*, *AK*, *and JvZ*)

Contents

Enabling the Scholarly Discourse of the Future: Versioning RDF Data in the Digital Humanities Martina Bürgermeister	1
Modeling as a Scholarly Process: The Impact of Modeling Decisions on Data-Driven Research Practices Aline Deicke	17
Towards a Network of Sixteenth Century Book Illustrations Germaine Götzelmann	38
Comparison of Graph- and Collection-Based Representations of Early Modern Biographical Archives Meadhbh Healy, Thomas O'Connor, and John Keating	60
Feast and Famine: The Problem of Sources for Linked Data Creation Rebecca Kahn and Rainer Simon	86
TEI Beyond XML – Digital Scholarly Editions as Provenance Knowledge Graphs Andreas Kuczera 1	101
Graph Technologies for the Analysis of Historical Social Networks Using Heterogeneous Data Sources Sina Menzel, Mark-Jan Bludau, Elena Leitner, Marian Dörk, Julián Moreno-Schneider, Vivien Petras, and Georg Rehm 1	124
Modeling the 'Unthought' Chiara Palladino, Andreas Kuczera, and Iian Neil 1	150
Modeling Semantic Relations from a Dependency-Based Graph: A Corpus-Based Network Analysis of Croatian Parliamentary Debates	
	172
Identifying Lesser-Known Actors of the 'Stuttgart School': An Event-Oriented Approach to Historical Network Research Claus-Michael Schlesinger	193

SPARQLing Ogham Stones: New Options for Analyzing Analog	5
Editions by Digitization in Wikidata Sophie C. Schmidt and Florian Thiery	211
It May Be in the Structure, Not the Combinations: Graph Metrics as an Alternative to Statistical Measures in Corpus-Linguistic Research	
Anna Shadrova	245
The Socinian Correspondence: A Graph-Based Digital Scholarly Edition	
Patrick Toschka, Julian Jarosch, and Andreas Kuczera	279
Graph-Based Paths through a Narrative Corpus of Images: A Digital Edition of Giovanni Domenico Tiepolo's <i>Divertimento per li regazzi</i> Based on the CIDOC CRM	
Rotislav Tumanov, Gabriel Viehhauser, Alina Feldmann, and Bar	<u>'-</u>
bara Koller	294
Identifying Relevant Patterns in a Large Graph of Open Data: A Semantic Exploration of the Panama Papers	L
Antoine Vion	311