



Knowledge Graphs for Cultural Heritage and Digital Humanities

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ABSTRACT

Galleries, Libraries, Archives and Museums (so-called GLAMs) as well as digital humanities researchers are more and more publishing and sharing digital data, information and knowledge online. This opens new opportunities for cross-institute, cross-researcher and cross-project collaborations and analyses of such (multi-modal) data. Semantic Web principles and technologies and more specifically Knowledge Graphs are excellent models for representing and integrating heterogeneous data while allowing for standardized access and querying. However, several challenges remain in the modelling, enriching and linking such cultural knowledge graphs, as well as making them usable for a variety of real-world user tasks.

In this talk, I discuss the promises and challenges of designing, constructing and enriching knowledge graphs for cultural heritage and digital humanities. I will talk about semantic interoperability and how connecting previously unconnected data and knowledge presents new opportunities for historians, media scholars and other researchers. User-centric challenges include how such integrated and multimodal data can be browsed, queried or analysed using for state of the art machine learning.

I will also address the issue of *polyvocality*, where multiple perspectives on (historical) information is to be represented. Especially in contexts such as that of (post-)colonial heritage, representing multiple voices is crucial. I will show ongoing research on how knowledge graphs can provide excellent vehicles for this.

CCS CONCEPTS

- Applied computing → Arts and humanities;
- Computing methodologies → Knowledge representation and reasoning;
- Human-centered computing → User centered design.

KEYWORDS

Knowledge Graph, Cultural Heritage, Digital Humanities, Polyvocality, Multimodal data

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BIOGRAPHY

Victor de Boer is Associate Professor at the User-Centric Data Science group at the Computer Science department of the Vrije Universiteit Amsterdam (VU). He is also a senior research fellow at Netherlands Institute for Sound and Vision (NISV) and acts as co-director of the Cultural AI Lab. In his research, he combines (Semantic) Web technologies with Human-Computer Interaction, Knowledge Representation and Information Extraction to tackle research challenges in various domains. These application domains include Cultural Heritage, Digital Humanities and ICT for Development (ICT4D) where he collaborates in interdisciplinary teams with domain experts. Victor has been involved (and is currently involved) in various European projects (eg. InterConnect, InTaVia and BigDataEurope, Ariadne, Voices EuropeanaConnect) as well as national research projects (Pressing Matter, Hybrid Intelligence, CLARIAH, and BiographyNet). In these projects he focuses on user-centric data integration and semantic enrichment. He is the author of over 200 research papers and technical articles.

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