# Nicola Carboni

*Curriculum Vitae*

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## Research Experience

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|---|---|
| Mars 2025 - | **Assistant Professor**, *University of Illinois Urbana-Champaign*, Urbana, iSchool |
| Dec 2023 - Dec 2024 | **Data Strategy & Analytics**, *Musée d'Art et d'Histoire*, Geneve, Semantic Catalogues |
| Aug 2022 - Aug 2024 | **Lecturer**, *University of Geneve*, Geneve, Digital Humanities - Faculty of Arts & Humanities |

**Feb 2021 - Mars 2024** · **Postdoctoral Fellow**, *University of Geneve*, Geneve, Digital Humanities
- Led the development and implementation of methodologies for the documentation and governance of large-scale (10 million) image corpora.
- Defined processes and metrics for the digital analysis of image circulations.
- Established data driven methods for investigate spatio-temporal dynamics and discover circulation patterns.
- Developed methodologies for the integration and analysis of Machine Learning outputs with Image Metadata.

**July 2018 - Dec 2020** · **Research Fellow - Semantic Architect**, *University of Zurich*, Zurich, SARI
- Development of methodologies for building and leveraging distributed (Linked Open Data) resource systems in data curation.
- Creation of shared semantic frameworks for standardizing multidisciplinary reference information.
- Development and management of diverse global data authorities for cultural and historical data.

**Jan. 2019 - Sept. 2019** · **Research Fellow**, *IUAV University*, Venice, Burckhardt Source
- Construction of data curation pipelines to enhance and interconnect the data.
- Creation and sharing (wikidata) of authority for historical figures.
- Development of data models for documenting and analyzing texts and entities in Jacob Burckhardt's correspondence.
- Creation of computational tools for investigating transnational circulation patterns in the corpus.

**Feb. 2018 - June 2018** · **Digital Humanities Fellow**, *Harvard University*, Florence, Harvard Center for Italian Renaissance Studies
- Examination of art historical methods for documenting variations in image formalization.
- Creation of semantic models (CIDOC-CRM) for aggregating and studying image archival data.

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| June 2014 - July 2017 | **EU Marie Curie Early-Stage Researcher**, *CNRS*, Marseille, MAP Laboratory |
| | · ITN-DCH project: **Initial Training Network for Digital Cultural Heritage**. |
| | · Study and assessment of the Digital Cultural Heritage data ecosystem. |
| | · Creation of a framework for the documentation of tangible and intangible characteristics of cultural objects. |
| | · Developedment of a CIDOC-CRM Extension for documenting and analysing iconographic & symbolic meaning(s) of cultural objects. |
| | · Formalisation of a metadata set for the documentation of provenance information in digitization processes. |

## Education

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| Jun 2014 - July 2020 | **PhD, School of Engineering** - **Topography**, *National Technical University of Athens*, Greece |
| | · *Thesis title:* **Conceptualization and Semantic Description in Digitized tangible/intangible Content**. |
| | · *Jury:* |
| |   – Livio de Luca (**Supervisor**), Research Director - CNRS MAP, Modèles et simulations pour l'Architecture et le Patrimoine - Marseille, France. |
| |   – Andreas Georgopoulos, Professor, School of Rural and Surveying Engineering, NTUA, National Technical University of Athens - Athens, Greece |
| |   – Tristan Weddingen, Director - Bibliotheca Hertziana, Max Planck Institute for Art History - Rome, Italy |
| |   – Fabio Remondino, Head - 3DOM 3D Optical Metrology unit), FBK, Fondazione Bruno Kessler - Trento, Italy. |
| |   – Marinos Ioannides, Director of UNESCO Chair on Digital Cultural Heritage, Cyprus University of Technology - Limassol, Cyprus. |
| |   – George Bruseker, Senior Researcher, ETHZ - Federal Institute of Technology Zurich - Zurich, Switzerland. |
| |   – Margarita Kokla, Professor, School of Rural and Surveying Engineering, National Technical University of Athens - Athens, Greece |
| | · *Short Abstract*: The dissertation introduces a methodology for systematizing, codifying, and linking various layers of knowledge about visual heritage using Linked Open Data and Digital Twins. It integrates methods for recording digitization, data processing, and interpretation of cultural artifacts, offering a comprehensive approach to organizing and framing different perspectives over single or multiple aspects of heritage objects and practices. |
| Sept. 2011 - Oct. 2013 | **European MA in Digital Library Learning**, Jointly awarded by the Universities of Oslo, Tallinn, Parma |
| | · *Universities involved:* OsloMet, Tallinn University, Parma University |
| | · *Thesis:* Digital preservation network: a case study about CLOCKSS. |
| | · *Courses include:* Ontologies and Linked Open Data, Information Management, Digital Libraries Management. |
| Sept. 2007 - Sept. 2010 | **Bachelor in Cultural & Information Science**, *UNIPI*, Pisa, Italy |
| | · *Courses include:* Information science, Knowledge Organisation, Textual Bibliography, Classifications. |

## Research Visits

Feb. 2016 **Researcher**, *3DOM, Fontazione Bruno Kessler (FBK)*, Trento, Italy
- Host: **Fabio Remondino**
- *Activity:*
  - Data acquisition and processing (photogrammetry) of the Buonconsiglio Castle
  - Web visualisation and annotation of 3D point clouds.
  - Annotation of Provenance information for the 3D acquisition and processing.

Feb. 2015 **Researcher**, *KAAK, German Archeological Institute (DAI)*, Bonn, Germany
- Host: **Jennifer von Schwerin**
- *Activity:*
  - Semantic documentation of the MayaArch3D project using CIDOC-CRM
  - Analyse the information constraints of the platform used for archeological documentation.

Jan. 2015 **Researcher**, *FORTH ICS*, Heraklion, Greece
- Host: **Martin Doerr**
- *Activity:*
  - Semantic Modelling of cultural data using CIDOC-CRM
  - Theoretical and practical foundation of knowledge representation

## Funding

Project **TextEnt - TEXTual ENTities in time**, *University of Geneva*, 2024
- *Funding:* Swiss National Science Foundation - SPARK
- *Co-PI:* Simon Gabay
- *Amount:* 100.000 CHF
- *Period:* from 01/03/2024 to 01/03/2025
- *Description:* The project focuses on the development of a Computational Atlas of Francophone Literature, i.e. a reusable analytical framework for the study and representation of the dynamicity of the geographic horizon in literature. The project will build a pipeline for the extraction, disambiguation, validation and projection in time of textual toponyms using a combination of NLP (Natural Language Processing) and Linked Data. The output will help study the geography of literature at scale, discovering how authors have used place names over time, and thus how their outlook on the world has evolved and how they have reshaped their past.

## Teaching Experience

### Overview

| Name | Level | Year |
|---|---|---|
| Représentation des connaissances | Master | 2021-22 |
| Biais dans les collections numériques: données et représentation(s) | Master | 2021-22 |
| Knowledge Graph et Représentation des Connaissances | Master | 2022-23 |
| Biais dans les collections numériques: données et représentation(s) | Master | 2022-23 |
| Images Numériques I | Bachelor + Master | 2022-23 |
| Images Numériques II | Bachelor + Master | 2022-23 |
| Les données des GLAM (musées, archives, bibliothèques): de l'analyse à la curation numérique | Bachelor + Master | 2023-24 |
| Images Numériques I | Bachelor + Master | 2023-24 |
| Images Numériques II | Bachelor + Master | 2023-24 |
| Digital Art History. Un panorama | Master | 2023-24 |

Workshop *Digital Image Management: Collection, Processing and Analysis* at the Programme doctoral en études numériques held in *Geneva, Switzerland*

Summer school *Integrating Human Science Data using CIDOC-CRM as Formal Ontology: a practical approach* at the European Summer University in Digital Humanities held in *Leipzig, Germany*

Workshop Workflow for the Integration of Heritage Digital Resources — *Olimje, Slovenia*

## Publications

### Journals

#### upcoming

2025 **Nicola Carboni**. *Ontological Patterns for Modeling Art Exhibitions: an initial investigation - Metadata and Semantic Research*, forthcoming

2025 George Bruseker, **Nicola Carboni**, Matthew Fielding, Denitsa Nenova, Thomas Haensli. *The Semantic Reference Data Modelling Method: Creating Understandable, Reusable and Sustainable Semantic Data Models - Journal of Open Humanities Data* , forthcoming

#### published

2024 Béatrice Joyeux-Prunel, **Nicola Carboni**, Marie Barras. *Plotting the Geopolitics of 20th-c. Modern and Avant-Garde Illustrated Periodicals. Distant and Close Viewing and the Issue of Centres and Peripheries - Journal of European Periodical Studies*, 9(1)

2024 Béatrice Joyeux-Prunel, Catherine Dossin, **Nicola Carboni**. *Style Revisited - Artl@s Bulletin*, 13(2)

2024    Béatrice Joyeux-Prunel. Marie Barras. **Nicola Carboni**. *Greater Aura? The 19th and 20th Century Circulation of Art Reproductions in the Press through a Digital and Historical Perspective - Život umjetnosti: časopis o modernoj i suvremenoj umjetnosti i arhitekturi*, 114(1)

2023    **Nicola Carboni**. *The Mediatization of the Early Automobile: A Visual Analysis of the Illustrated Press in the late 19th and Early 20th century - Artl@s Bulletin*, 12(1)

2023    Béatrice Joyeux-Prunel. Marie Barras. **Nicola Carboni**. *Une Europe par les arts ? Les périodiques illustrés au-delà du Musée imaginaire - Artl@s Bulletin*, 12(1)

2023    Béatrice Joyeux-Prunel, **Nicola Carboni**, Adrien Jeanrenaud, Cédric Viaccoz, Céline Belina, Thomas Gauffroy-Naudin and Marie Barras. *Un œil mondial? La mondialization par l'image au prisme du numérique - le cas du projet Visual Contagions - Sociétés et représentations*, 55

2021    **Nicola Carboni**, Angelica Federici, and Giuditta Cirnigliaro. *Tacita Dean's Buon Fresco: developing a digital Atlas on The life of Saint Francis Fresco cycle in the upper Basilica of Saint Francis of Assisi, Linguistica e Letteratura*, XLVI(1/2).

2021    Sigrid Mirabaud, Alexandra Stoleru, Claire Bosc-Tiessé, **Nicola Carboni**, François Guéna, Tommy Messaoudi. *Vers la formalisation d'un modèle ontologique pour la description des églises rupestres peintes d'Éthiopie - Histoire de l'art - "Humanités numériques: de nouveaux récits en histoire de l'art?"*, 87

2019    **Nicola Carboni**, Livio De Luca. *An Ontological Approach to the Description of Visual and Iconographical Representations, Heritage*, 2(2)1191–1210.

2017    George Bruseker, **Nicola Carboni**, Anaïs Guillem. *The Role of Formal Ontology and CIDOC CRM, Heritage and Archaeology in the Digital Age*, pages 93-131. Springer, 2017.

2017    **Nicola Carboni**, Livio De Luca. *Towards a Semantic Documentation of Heritage Objects through Visual and Iconographical Representations, International Information Library Review*, 49(3).

2016    **Nicola Carboni**, Livio De Luca. *Towards a conceptual foundation for documenting tangible and intangible elements of a cultural object, Digital Applications in Archaeology and Cultural Heritage*, 3(4):108–116.

2016    **Nicola Carboni** et al. *Data Provenance in Photogrammetry Through Documentation Protocols, ISPRS Annals of Photogrammetry, Remote Sensing and Spatial Information Sciences*, Volume III-5:57–64.

2015    George Bruseker, Anais Guillem, **Nicola Carboni**. *Semantically Documenting Virtual Reconstruction: Building a Path to Knowledge Provenance, ISPRS Annals of Photogrammetry, Remote Sensing and Spatial Information Sciences*, II-5/W3:33-40.

Conferences

2025 Cristóbal F. Barria Bignotti, **Nicola Carboni**, Marie Barras. *Geneva Cultural Heritage Research Platform - The Art Museum in the Digital Age 2025*, Vienna, Austria

2024 **Nicola Carboni**. *Ontological patterns for modeling the validity of spatiotemporal statements - SWODCH'24: International Workshop on Semantic Web and Ontology Design for Cultural Heritage*, Tours, France

2024 **Nicola Carboni**. *Integration and Analysis of Exhibition Information - CIDOC 2024*, Amsterdam, The Netherlands

2024 **Nicola Carboni**. *Ontological patterns for modeling art exhibitions - 8th International Conference on Metadata and Semantics Research*, Athens, Greece

2024 **Nicola Carboni**. *Visual Exchanges as a Network: The Case of Avant-Garde Periodicals - The Historical Network Research Conference 2024*, Lausanne, Switzerland

2024 **Nicola Carboni**. *The structures of visual exchanges - Reimagining Annotation for Multimodal Cultural Heritage*, Rennes, France

2023 **Nicola Carboni**, Thibault Usel, Béatrice Joyeux-Prunel. *Linked Open Data pour l'intégration d'informations spatio-temporelles sur les expositions - Humanistica 2023*, Geneva, Switzerland

2023 **Nicola Carboni**, Marie Barras, Béatrice Joyeux-Prunel. *Pister des circulations visuelles à l'échelle mondiale. Méthode et premiers résultats du projet Visual Contagions - Humanistica 2023*, Geneva, Switzerland

2023 **Nicola Carboni**. *A computational analysis of image globalization: the impact of images in the periodical press - Seventh European Congress on World and Global History 2023*, Den Haag, Netherlands

2023 **Nicola Carboni**. *Analysis of the Material Limitations of Data Infrastructures: Overcoming the Database - From Hype to Reality: Artificial Intelligence in the Study of Art and Culture*, Zurich, Switzerland

2023 **Nicola Carboni**, Béatrice Joyeux-Prunel, Marie Barras. *A Computational Analysis of the Transmission and Impact of Images in the Periodical Press - College Art Association Conference*, New York, United States

2023 Thibault Usel, **Nicola Carboni**, Béatrice Joyeux-Prunel. *Linked Open Data for Horizontal Integration of Exhibition Information - The Art Museum in the Digital Age*, Vienna, Austria

2022 **Nicola Carboni**, Béatrice Joyeux-Prunel. *Images in Global Circulation: A Multi-Scalar Approach - Digital Art History IV*, Zagreb, Croatia

2022 **Nicola Carboni**, Angelica Federici, Giuditta Cirnigliaro. *Tacita Dean's Buon Fresco: developing a digital Atlas on The life of Saint Francis Fresco cycle in the upper Basilica of Saint Francis of Assisi - Renaissance Society of America*, Dublin, Ireland

2022 **Nicola Carboni**. *The Rise of the Machine - Thinking Europe Visually*, Ecole normale Supérieure de Paris, Paris, France

2022 **Nicola Carboni**. *Exploring the Visual with Formal Ontologies*, at the Narrative Digitaler Objekte: Kunstgeschichte Und Digital Humanities - *5th Swiss Congress for Art History*, University of Zurich, Zurich, Switzerland

2022 **Nicola Carboni**, Maurizio Ghelardi. *Textual datification: the case of BurckhardtSource*, at the Kunstwissenschaftliche Editionen im digitalen Zeitalter workshop - *36th Congress of German Art Historians 2022*, University of Stuttgart, Stuttgart, Germany

2020 **Nicola Carboni**, George Bruseker. *Representation for reference entity-types: introducing the Semantic Reference Data Models*, CIDOC Conference, Geneva, Switzerland

2019 **Nicola Carboni**. *Using Semantic Web Technologies for the Classification of Tangible and Intangible Elements of an Iconographical Representation*, at Bits and Bites *4th Swiss Congress for Art History*, Mendrisio, Switzerland

2016 Magda Ramos, Diego Bellido, **Nicola Carboni**, Matevz Domajnko, Ellie Stathopoulou, Georgia Stavropoulou, Daniele Morabito, Fabio Remondino. *Complex 3D heritage architectures accessible on the web*, at the workshop *8th International Congress on Archaeology, Computer Graphics, Cultural Heritage and Innovation 'ARQUEOLÓGICA 2.0'*, Valencia, Spain

### Workshops & Seminars

2024 **Nicola Carboni**. **Keynote**: *Contextualize Heritage 3D Objects using Semantic Annotations: from Provenance to Interpretation(s) - Advanced 3D Archaeological Documentation and Linked Open Data*, Lund, Sweden

2023 **Nicola Carboni**. *A data driven approach to the study of car imagery - Representing Automobility in Literature and Film*, Frankfurt, Germany

2023 **Nicola Carboni**, Béatrice Joyeux-Prunel. *Integration and analysis of exhibition information using Linked Open Data - Semantic Web, Cultural Heritage, and Art Historical Knowledge: Conceptual Models, Ontologies, and Epistemological Implications*, Malaga, Spain

2023 **Nicola Carboni**. *The Mechanics of Image Study: Analysing Image Circulation across Large Corpora of Visual Data - Woodcuts. Studying the Images of Popular Prints: Methods and Theory*, Valencia, Spain

2021 **Nicola Carboni**. *An Ontology for the Description of Visual Heritage*, at the New Directions in Digital Visual Studies: (en)coding Heritage Seminar Series - *TORCH — The Oxford Research Centre in the Humanities*, Oxford, United Kingdom

2019 **Nicola Carboni**, Susanne Muller, and Maurizio Ghelardi. *Towards a Foundation for Documenting Digital Textual Resources with CIDOC-CRM*, at the workshop *Scholarly Digital Editions, Graph Data-Models and Semantic Web Technologies*, Lausanne, Switzerland.

2017 Pierre Alliez, Laurent Bergerot, Jean-François Bernard, Clotilde Boust, George Bruseker, **Nicola Carboni** et al.. *Digital 3D objects in art and humanities: Challenges of creation, interoperability and preservation*, at the workshop *PARTHENOS*.

2017 **Nicola Carboni**. *Description of linked data and "historical metadata" in 3D models*, at the workshop *PARTHENOS 2017*, Bordeaux, France.

2015 **Nicola Carboni**, Livio de Luca. *Interlinking physical and conceptual dimensions of heritage artefacts into semantically-enriched representations*, at the workshop *Museums as Cultural, Urban, Creative and Learning Interface*, Marseille, France

## Round Table

2023 **Nicola Carboni** *Analyse Des Données Et Musées*, at the roundtable *Ouvrir Les Musées Au(x) Numérique(s)* - Humanistica 2023, Geneva, Switzerland

2022 **Nicola Carboni** *SPARQL for Visual Sources*, at the roundtable *Beyond Linked Data: Data Querying Services through API and SPARQL* - Renaissance Society of America, Dublin, Irelend

2021 **Nicola Carboni** *Semantic Description of 3D Sources*, at the roundtable *Early Modern Material Culture: New Approaches in Digital Humanities II* - Renaissance Society of America, Virtual

## Lectures

2023 *Temporal Uncertainties* at the *RDF & Linked Data Seminar* held at the *University of Geneva, Geneva, Switzerland*

2022 *Images in Global Circulation: A Multi-Scalar Approach* at the *Data Science Day* held at the *University of Geneva, Geneva, Switzerland*

2022 *A data-driven approach to the study of images circulation* at the *Digital History - Data for History Lectures series* held at the *Humboldt University of Berlin, Berlin, Germany*

2022 *Historical semantic data: challenge and possibilities* at the *Digital Humanities PhD Seminar* held at the *Knowledge Organization Systems - Department of Computer Science, University of Geneva, Geneva, Switzerland*

2021 *Using formal ontologies to explore visual culture(s)* at the *Digital Humanities PhD Seminar* held at the *EPFL - Swiss Federal Institute of Technology, Lausanne, Switzerland*

2021 *Documenting heritage* at the *Research Seminar Art in the making* held at the *Institut national d'histoire de l'art, Paris, France*

2019 *Digital Art History* at the Summer school *Stucchi E Stuccatori Ticinesi a Roma - Dalla riscoperta cinquecentesca alla grande tradizione barocca* held in *Rome, Italy*

2019 *Linked data for Digital Humanities* at the Master *Comunicazione Storica: televisione e multimedialità* held in *Rome, Italy*

## Organization

Roundtable  Ouvrir Les Musées Au(x) Numérique(s) - Humanistica 2023 — *Geneva, Switzerland*

Conference  Humanistica 2023 — *Geneva, Switzerland*

Seminar  Conversation Series in Digital Art History. Artl@s/Visual Contagions Research Seminar — *online*

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| RoundTable | Data Sustainability II: Sustainability and Dissemination in Early Modern Inter-textual and Digital Visual Culture Studies — *Renaissance Society of America Virtual 2022* |
| Seminar | Styles Revisited: From Iconology to Digital Image Studies. 2022-2023 Artl@s/Visual Contagions Research Seminar — *online* |
| Seminar | Styles Revisited: From Iconology to Digital Image Studies. 2021-2022 Artl@s/Visual Contagions Research Seminar — *online* |
| Conference | ITN-DCH - Digital Heritage 2017 Final Conference — *Olimje, Slovenia* |
| Workshop | Workflow for the Integration of Heritage Digital Resources — *Olimje, Slovenia* |

## Collaborations

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| 2023- | *Development of Semantic Data Catalogues* together with the *Musée d'Art et d'Histoire - Geneva, Switzerland* |

## Organized Exhibitions

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| Digital | Curation and Coordination *"Visual Contagions. Images in Globalization."* - Exhibition organised with Jeu de Paume Museum - Paris, France. |
| Digital | Curation and Coordination *"The images that shaped Europe"* - Exhibition organised with Europeana Foundation - Den Haag, Netherlands. |

## Languages

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| Italian | Native |
| English | Fluent |
| French | Advanced |

## Editorial

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| Member | Editorial Advisory Board - Digital Library Perspectives |
| Member | Editorial Board of Linked Art |

## Direction

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| Co-director | Artl@s project |
| Co-director | TextEnt |

## Memberships

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| Member | CIDOC-CRM Special Interest Group |
| Member | Digital Art History Society |
| Member | Renaissance Society of America |
| Member | Association Francophone des Humanités Numériques |