



Arianna Moretti

Date of birth: 16 May 1997 | **Nationality:** Italian | **Phone number:** (+39) 3318067328 (Mobile) |

Email address: arianna.moretti4@unibo.it | **Email address:** arianna.moretti2@studio.unibo.it |

Address: Via Nicolò Dall'Arca 58, Bologna, 40129, BOLOGNA, Italy (Home)

ABOUT ME

Ph.D. Candidate in Cultural Heritage at the University of Bologna, in History and Cultural Heritage at the University of Helsinki, and in Una Europa Doctoral Programme in Cultural Heritage - Developer at OpenCitations

WORK EXPERIENCE

1 MAR 2023 – CURRENT Bologna, Italy

PH.D. STUDENT IN CULTURAL HERITAGE IN THE DIGITAL ECOSYSTEM AT FICLIT (UNIBO) UNIVERSITY OF BOLOGNA (FICLIT)

The main research interest of my PhD is the automation of metadata crosswalks between different data models and file formats. More in detail, I deal with the creation of highly reusable workflows for the exchange of variously modeled metadata in the cultural heritage domain, with particular attention to the RDF serialization formats. I pursue the same research interests as a part of the Spoke 4 of the PNRR Extended Partnership 5 (Cultural Heritage Active Innovation for Sustainable Society - CHANGES) and as a software developer at OpenCitations.

Business or Sector Other service activities | **Department** Department of Classical Philology and Italian Studies |

Website <https://phd.unibo.it/chede/en>

14 DEC 2022 – CURRENT Bologna, Italy

TEACHING TUTOR FOR BASIC COMPUTER SCIENCE COURSE AT FICLIT (UNIBO) UNIVERSITY OF BOLOGNA (FICLIT)

Educational support for the Basic Computer Science course (1) (A-L) within the Humanities degree program (8850) at the University of Bologna. The course covers the following topics:

- Introduction to computational thinking
- Data structures
- Algorithms and computability
- Programming languages
- World Wide Web
- Internet and information transfer
- Web pages
- Information technology in the humanities

Department Department of Classical Philology and Italian Studies | **Email** ficlit.info@unibo.it | **Website** <https://ficlit.unibo.it/it>

1 APR 2022 – 28 FEB 2023 Bologna, Italy

SOFTWARE DEVELOPER AT OPENCITATIONS - RESEARCH FELLOW AT FICLIT (UNIBO) UNIVERSITY OF BOLOGNA (FICLIT)

- Python software development for processing citation and bibliographic data
- Creation of indexes of citation data (processing and production of CSV, JSON, RDF file formats)
- Data extraction, processing, and visualization in JavaScript (from Prometheus file format), using CSS and HTML
- Data analysis and processing for metadata crosswalk from new data sources to OpenCitations Data Model (e.g.: DataCite's collection and PubMed's National Institute of Health Open Citation Collection)
- Use of APIs (data extraction and processing)
- Preliminary work to create APIs for querying the citation indexes, with methodology and tools already in use at OpenCitations
- Study and use of Semantic Web technologies (Linked Data)
- Data analysis related to the use of the services provided by OpenCitations

- Collaboration in writing scholarly articles
- Study and application of foundational principles of Open Science (Reproducibility, FAIR Principles, Open Methodology, standards, infrastructure and practices for developing and maintaining Open Source software)

Business or Sector Education | **Department** Department of Classical Philology and Italian Studies |

Address Via Zamboni, 32, 40126, Bologna, Italy | **Email** contact@opencitations.net | **Website** <http://opencitations.net>

13 JAN 2022 – 9 FEB 2022 Bologna (BO), Via Zamboni, 34, Italy

INTERN (FOR CURRICULAR INTERNSHIP) AT OPENCITATIONS DIGITAL HUMANITIES ADVANCE RESEARCH CENTER (DH.ARC) - ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA

Participation in OpenCitations' projects, at the Digital Humanities Advanced Research Center, including:

- Data extraction from log data files (Prometheus file format)
- Data processing
- Data visualization

Languages and technologies used: Python, Javascript (D3.js, Chart.js), Prometheus file format and toolkit

3 NOV 2021 – 3 JAN 2022 Bologna (BO), Via Zamboni, 34, Italy

INTERN (FOR THESIS INTERNSHIP) AT OPENCITATIONS DIGITAL HUMANITIES ADVANCE RESEARCH CENTER (DH.ARC) - ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA

Participation in OpenCitations' projects, at the Digital Humanities Advanced Research Center, including:

- Data extraction
- Data processing
- Triplestore population for the creation of a citation data index (using Blazegraph)

Languages and technologies: Python, SPARQL, Semantic Web Technologies

24 MAR 2019 – 4 APR 2019 Cessalto (TV), Via Vittoria, 45, Italy

INTERN (FOR CURRICULAR INTERNSHIP) AT THE HUMAN RESOURCES OFFICE OF SME GROUP LTD. PAOLO ANASTASIA (HUMAN RESOURCES OFFICE MANAGER)

- Supporting company employees in safety training and courses.
- Organizing and filing documentation related to safety courses.
- Inputting data on employees' work careers and shift organization into the company database.
- Conducting training and updating activities.
- Assisting the HR manager in employee interviews.
- Selecting resumes from the database for job interviews based on the required skills for open positions.

● EDUCATION AND TRAINING

AUG 2019 – FEB 2022 Bologna, Italy

MASTER'S DEGREE IN DIGITAL HUMANITIES AND DIGITAL KNOWLEDGE Alma Mater Studiorum, University of Bologna, FICLIT Department

Fundamentals of programming (Python, JavaScript, R, SPARQL), Web development (HTML, CSS, JavaScript), Semantic Web technologies, Natural Language Processing.

Address Via Zamboni 34, 40126, Bologna, Italy | **Website** <https://corsi.unibo.it/2cycle/DigitalHumanitiesKnowledge> |

Final grade 110/110 con Lode |

Thesis Extending The OpenCitations Codebase For Creating Non-DOI Citation Indexes: The Ingestion Of The NIH Open Citation Collection

AUG 2016 – JUN 2019 Bologna, Italy

BACHELOR'S DEGREE IN ANTHROPOLOGY, RELIGIONS AND ORIENTAL CIVILIZATIONS Alma Mater Studiorum, University of Bologna, DISCI Department

Antropologia Culturale, Tecniche della Ricerca Etnografica, Antropologia Digitale

Address Via Zamboni, 38, 40126, Bologna, Italy | **Website** <https://corsi.unibo.it/laurea/ScienzeAntropologiche> |

Final grade 110/110 con Lode |

Thesis Business, Social Networks, E-Tribes, and "Virtual" Realities: An Analysis of Ethnographic Research on Digital Social Platforms

AUG 2011 – JUN 2016 Jesi, Italy

CLASSICAL HIGH SCHOOL DIPLOMA Liceo Classico Vittorio Emanuele II

Address Corso Giacomo Matteotti, 48, 60035, Jesi, Italy | **Website** <https://liceoclassicojesi.edu.it/> | **Final grade** 100/100 con Lode.

LANGUAGE SKILLS

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1
FRENCH	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Proficient in front-end web languages: HTML, CSS, and JavaScript | Graph Database Management Skills (Blazegraph) | Expert Use of Semantic Web and Linked Data Technologies (RDF, SPARQL, OWL) | Proficient in the use of major operating systems | Proficient in managing and utilizing APIs | Solid foundation in computational thinking and algorithms for programming | Proficient in the use of version control systems (GitHub, GitLab) | Expert use of Python for data extraction, analysis, processing, and visualization | Expert in the development and extension of software using Test Driven Development (TDD) | Good knowledge of major communication protocols, especially HTTP and HTTPS | Strong skills in formulating and utilizing data models for the cultural heritage domain

PUBLICATIONS

2022

[Enabling Portability and Reusability of Open Science Infrastructures](#)

This paper presents a methodology for designing a containerized and distributed open science infrastructure to simplify its reusability, replicability, and portability in different environments. The methodology is depicted in a step-by-step schema based on four main phases: (1) Analysis, (2) Design, (3) Definition, and (4) Managing and provisioning. We accompany the description of each step with existing technologies and concrete examples of application.

doi:10.1007/978-3-031-16802-4_36

Link https://link.springer.com/chapter/10.1007/978-3-031-16802-4_36

2022

[Identifying and correcting invalid citations due to DOI errors in Crossref data](#)

This work aims to identify classes of DOI mistakes by analysing the open bibliographic metadata available in Crossref, highlighting which publishers were responsible for such mistakes and how many of these incorrect DOIs could be corrected through automatic processes. By using a list of invalid cited DOIs gathered by OpenCitations while processing the OpenCitations Index of Crossref open DOI-to-DOI citations (COCI) in the past two years, we retrieved the citations in the January 2021 Crossref dump to such invalid DOIs. We processed these citations by keeping track of their validity and the publishers responsible for uploading the related citation data in Crossref. Finally, we identified patterns of factual errors in the invalid DOIs and the regular expressions needed to catch and correct them. The

outcomes of this research show that only a few publishers were responsible for and/or affected by the majority of invalid citations. We extended the taxonomy of DOI name errors proposed in past studies and defined more elaborated regular expressions that can clean a higher number of mistakes in invalid DOIs than prior approaches. The data gathered in our study can enable investigating possible reasons for DOI mistakes from a qualitative point of view, helping publishers identify the problems underlying their production of invalid citation data. Also, the DOI cleaning mechanism we present could be integrated into the existing process (e.g. in COCI) to add citations by automatically correcting a wrong DOI. This study was run strictly following Open Science principles, and, as such, our research outcomes are fully reproducible.

doi:10.1007/s11192-022-04367-w

Link <https://link.springer.com/article/10.1007/s11192-022-04367-w>

2023

Digitisation of Temporary Exhibitions: the Aldrovandi Case

Temporary exhibitions in the cultural heritage system have become diffused. They are tools to enhance cultural heritage and to gather, in the same context, cultural goods that otherwise would never be exposed together. Their temporal limitation gives them the uniqueness of an event that will not be repeated. The exhibition "The Other Renaissance: Ulisse Aldrovandi and the Wonders of the World" was created to offer visitors a tour of an exceptional legacy of objects, some of which have never been exhibited before, combined with objects, works of art from several Italian museums, and digital installations that together tell the story of how the first generation of naturalists took their first steps into science as we know it today. To store this exhibition a photogrammetric and structured light scanner survey campaign was launched to acquire 3D objects. By leveraging a combination of 3D, LOD, and Semantic Web technologies, we propose to create a digital twin (intended as an aggregation of different information about real-world heritage objects) of Aldrovandi exhibitions, to create a new digital tool differentiated from the physical exhibition, but that could store all the information and objects exposed together physically.

doi:10.2312/gch.20231176

Link <https://diglib.eg.org/handle/10.2312/gch20231176>

Portfolio and Further Publications

Link to my [Portfolio](#), containing an extended list of publications, preprints, and other contributions.

● **DRIVING LICENCE**

Driving Licence: B

● **COMMUNICATION AND INTERPERSONAL SKILLS**

Strong aptitude for teamwork

Solid experience in collaborative work, primarily cultivated through participation in team-based projects as part of the Master's Degree program in Digital Humanities and Digital Knowledge.

● **VOLUNTEERING**

OCT 2013 – NOV 2021 Jesi (Italy)

Volunteer work at Amicizia a Domicilio (non-profit organization)

Participation in the associative activities promoted by Amicizia a Domicilio, aimed at providing social and economic support to families in need within the local community.

11 AUG 2019 – 4 SEP 2019 Nosy Faly (Madagascar)

Volunteer work at New Generation Nosy Faly ONLUS

Support in educational activities with primary and secondary school students in French.

6 AUG 2017 – 6 SEP 2017 Nkolfolou (Yaoundé, Camerun)

Volunteer work at Bitame Lucia International School

Support in extracurricular summer activities aimed at reinforcing foundational disciplines to facilitate the integration of future students into classes, conducted in English.

Bologna , 15 Aug 2024

Aiane Prodi