Ivan Heibi
Ph.D.

Assistant Professor at the Department of Classical Philology and Italian Studies, University of Bologna, Bologna (Italy)

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Brief biography

Ivan Heibi pursued and successfully obtained his bachelor's and master's degrees in Computer Science from the University of Bologna, Italy. Following graduation, he embarked on an academic journey, beginning his first year as a research fellow at the University of Bologna. During this period.

He holds a Ph.D. (SSD: INF/01) achieved at the Department of Classical Philology and Italian Studies at the University of Bologna. His Ph.D. research focused on integrating Semantic Web technologies in the Science of Science (SoS) field, particularly in the Arts and Humanities domain. The research aimed to understand the retraction phenomenon in scientific publications through qualitative and quantitative analysis of bibliographic and citation data. His Ph.D. thesis is available at http://amsdottorato.unibo.it/10024/

He currently holds the position of Assistant Professor at the University of Bologna, where his work primarily revolves around the PE5 – CHANGES "Cultural Heritage Active Innovation for Sustainable" project. Specifically, he is involved in PE5 SPOKE 4 – Virtual Technologies for Museums and Art Collections. Additionally, he plays an active role in managing and advancing the OpenCitations (http://opencitations.net) computational infrastructure, an independent non-profit organisation dedicated to open scholarship, focusing on the publication of open bibliographic and citation data.

His research interests include Semantic Web technologies, Information Science, Data Visualization, automatic processes of analysis and segmentation of documents, and the Science of Science. His work encompasses theoretical studies and the technical implementation of tools to promote semantic interoperability of Open Science services and infrastructures, the empirical analysis of scholarly citations, bibliometrics and scientometrics studies, and the development of visualisation and browsing interfaces for semantic data.

Work experience

University of Bologna / Assistant Professor (RTDa)
March 2023 - current
Scientific Disciplinary Sector (SSD): INF/01 Computer Science
Description: Research activities related to the PE5 ("Changes") project, Spoke 4 ("Virtual Technologies for Museums and Art Collections"). The work focuses on designing workflows and implementing them through the development, reuse, and adaptation of appropriate software to enable the creation of FAIR (Findable, Accessible, Interoperable, and Reusable) data.
Web page: https://sites.google.com/uniroma1.it/changes/home

University of Bologna / Research fellow
February 2022 - March 2023, Bologna
Scientific Disciplinary Sector (SSD): INF/01 Computer Science
Description: management and development of the computational infrastructure for OpenCitations.
Web page: https://opencitations.net/

University of Bologna / Casual Employment
June 2020 - January 2021, Bologna
Description: implementation of a web interface for integrating text analysis tools as part of the CATARSI-ALMA Idea Junior Line project.
Web page: https://catarsiproject.wordpress.com/mitao/

University of Bologna / Casual Employment
April 2019 - October 2019, Bologna
Description: development of a web interface for integrating text analysis tools within the CATARSI-ALMA Idea Junior Line project.
Web page: https://catarsiproject.wordpress.com/mitao/

University of Bologna / Research fellow
November 2017 - November 2018, Bologna
Scientific Disciplinary Sector (SSD): INF/01 Computer Science
Description: creation of query and visualisation interfaces for semantic data in RDF format as part of the OpenCitations project.
Web page: https://opencitations.net/

Education

University of Bologna / Ph.D.
Awarded in July 2022, Bologna
Thesis: *"Science of Retracted Science: A Citation Analysis of the Arts and Humanities Domain" (*http://amsdottorato.unibo.it/10024 *).*
Scientific Disciplinary Sector (SSD): INF/01 Computer Science
Final Presentation: https://doi.org/10.5281/zenodo.6810428

University of Bologna / Summer School ISWS-2019
Attended in July 2019, Bertinoro
Name: *"International Semantic Web Summer School 2022"*
Web page: https://2022.semanticwebschool.org/

University of Bologna / Master's Degree in Computer Science
Awarded in July 2017, Bologna
Thesis: *"A Visual Framework for Graph and Text Analytics in Email Investigation"*
Final Grade: 110/110 with honours

University of Bologna / Bachelor's Degree in Computer Science
Awarded in July 2012, Bologna
Thesis: *"Implementing a help desk ticketing system and evaluating its performance"*
Final Grade: 97/110

Personal skills and competences

Languages

Italian – Native Speaker

Arabic – Native Speaker

English – Advanced

Hebrew – Advanced

Technical skills and competences

Web technologies: (X)HTML, CSS, RDF, SPARQL Linked Data, Java Servlet

Programming languages: Java, Python, R, Javascript, PHP

Frameworks: JQuery, Bootstrap, AngularJS, Scrapy

IDE: Visual Studio Code, Eclipse, PyCharm, Oxygen, Atom

Software suites: OpenOffice, Microsoft Office

Others: interfaces for semantic data, ontology and data engineering, design patterns for digital documents and ontology modelling, markup languages, automatic processes of analysis and segmentation of documents, open access citation data, science of science, bibliometrics, scientometrics

Teaching

Courses

Activity: Course on Basic Informatics at the Bachelor's degree in Humanities
Academic year(s): 2023/2024
Scientific Disciplinary Sector (SSD): INF/01 Computer Science
Name and type of organisation: Department of Classic Philology and Italian Studies University of Bologna, Bologna (BO), Italy

Activity: Course on Artificial intelligence at the Bachelor's degree in Humanities
Academic year(s): 2023/2024
Scientific Disciplinary Sector (SSD): INF/01 Computer Science
Name and type of organisation: Department of Classic Philology and Italian Studies University of Bologna, Bologna (BO), Italy

Tutoring

Activity: Teaching the laboratory session of the course on Computational Thinking and Programming at the Second-Cycle degree on Digital Humanities and Digital Knowledge
Academic year(s): 2020/2021, 2021/2022
Name and type of organisation: Department of Classic Philology and Italian Studies University of Bologna, Bologna (BO), Italy

Activity: Tutor at the laboratory lectures of the course on Computational Thinking and Programming at the Second-Cycle degree on Digital Humanities and Digital Knowledge
Academic year(s): 2019/2020
Name and type of organisation: Department of Classic Philology and Italian Studies University of Bologna, Bologna (BO), Italy

Activity: Tutor at the course on Basic Informatics at the Bachelor's degree in Humanities
Academic year(s): 2019/2020, 2020/2021, 2021/2022
Name and type of organisation: Department of Classic Philology and Italian Studies University of Bologna, Bologna (BO), Italy

Student mentoring and supervision

Samuele Bertelli / Bachelor in Anthropology, Religions, Oriental Civilizations / University of Bologna
2024 - current
Activity: supervisor

Lorenzo Paolini / Master Student at Digital Humanities and Digital Knowledge / FICLIT, University of Bologna
2023, Bologna
Activity: co-supervisor

Davide Brambilla / Master Student at Digital Humanities and Digital Knowledge / FICLIT, University of Bologna
2022, Bologna
Activity: co-supervisor

Arianna Moretti / Master Student at Digital Humanities and Digital Knowledge / FICLIT, University of Bologna
2022, Bologna
Activity: co-supervisor

Elia Rizzetto / Master Student at Digital Humanities and Digital Knowledge / FICLIT, University of Bologna
2022, Bologna
Activity: co-supervisor

Scholarly contributions

Titles

CTO of OpenCitations at Department of Classical Philology and Italian Studies, University of Bologna, Bologna, Italy
2024 - current

Member of "Giunta" at Department of Classical Philology and Italian Studies, University of Bologna, Bologna, Italy
2024 - current

Head of communications at Department of Classical Philology and Italian Studies, University of Bologna, Bologna, Italy
2024 - current

Member of "Research Centre for Open Scholarly Metadata" at Department of Classical Philology and Italian Studies, University of Bologna, Bologna, Italy
2019 - current

Member of "The Digital Humanities Advanced Research Centre (/DH.arc)" at Department of Classical Philology and Italian Studies, University of Bologna, Bologna, Italy
2018 - current

Conference committees, and other academic events

[Program Committee] The Workshop on Artificial Intelligence for Cultural Heritage (IAI4CH2024)
Web page: https://ai4ch.di.unito.it
2023, 2024

[Program and Organising Committee] The Workshop on Open Citations & Open Scholarly Metadata (WOOC)
Web page: https://workshop-oc.github.io/
2018, 2020, 2022, 2025 (upcoming)

[Program Committee] The 28th International Conference on Theory and Practice of Digital Libraries (TPDL2024)
Web page: https://tpdl2024.nuk.si/
2024 (upcoming)

[Program Committee] The First International Workshop of Semantic Digital Humanities (SemDH2024)
Web page: https://semdh.github.io/
2024

[Program Committee] The International Conference on Semantic Systems (SEMANTiCS)
Web page: https://2024-eu.semantics.cc/
2024

[Program and Organising Committee] The International Conference on Semantic Systems (SEMANTiCS)
Web page: https://2023-eu.semantics.cc/
2023

[Program Committee] The Extended Semantic Web Conference (ESWC)
Web page: https://2024.eswc-conferences.org/
2023, 2024

[Program Committee] The Web Conference (WWW)
Web page: https://www2024.thewebconf.org/
2024

Publications

[Under Review at Journal] Barzaghi, S., Bordignon, A., Gualandi, B., Heibi, I., Massari, A., Moretti, A., Peroni, S., & Renda, G. (2024). A Proposal for a FAIR Management of 3D Data in Cultural Heritage: The Aldrovandi Digital Twin Case. http://arxiv.org/abs/2407.02018

[Under Review at Journal] Heibi, I., Moretti, A., Peroni, S., & Soricetti, M. (2024). The OpenCitations Index. https://doi.org/10.48550/ARXIV.2408.02321

[Under Review at Journal] Paolini, L., Vahdati, S., Di Iorio, A., Wardenga, R., Heibi, I., & Peroni, S. (2024). Why do you cite? An investigation on citation intents and decision-making classification processes. https://doi.org/10.48550/ARXIV.2407.13329

[Journal] Heibi, I., & Peroni, S. (2024). Retractions in arts and humanities: an analysis of the retraction notices. Digital Scholarship in the Humanities. https://doi.org/10.1093/llc/fqad093

[Conference Proceedings] Moretti, A., Heibi, I., & Peroni, S. (2024). A Workflow for GLAM Metadata Crosswalk. AIUCD2024. http://arxiv.org/abs/2405.02113

[Journal] Moretti, A., Soricetti, M., Heibi, I., Massari, A., Peroni, S., & Rizzetto, E. (2024). The Integration of the Japan Link Center's Bibliographic Data into OpenCitations. Journal of Open Humanities Data, 10, 21. https://doi.org/10.5334/johd.178

[Journal] Balzani, R., Barzaghi, S., Bitelli, G., Bonifazi, F., Bordignon, A., Cipriani, L., Colitti, S., Collina, F., Daquino, M., Fabbri, F., Fanini, B., Fantini, F., Ferdani, D., Fiorini, G., Formia, E., Forte, A., Giacomini, F., Girelli, V. A., Gualandi, B., … Vittuari, L. (2024). Saving temporary exhibitions in virtual environments: The Digital Renaissance of Ulisse Aldrovandi – Acquisition and digitisation of cultural heritage objects. Digital Applications in Archaeology and Cultural Heritage, 32, e00309. https://doi.org/10.1016/j.daach.2023.e00309

[Journal] Corcho, O., Ekaputra, F. J., Heibi, I., Jonquet, C., Micsik, A., Peroni, S., & Storti, E. (2024). A maturity model for catalogues of semantic artefacts. Scientific Data, 11(1), 479. https://doi.org/10.1038/s41597-024-03185-4

[Journal] Malínek, V., Umerle, T., Gray, E., Heibi, I., Király, P., Klaes, C., Korytkowski, P., Lindemann, D., Moretti, A., Panušková, C., Péter, R., Tolonen, M., Tomczyńska, A., & Vimr, O. (2024). Open Bibliographical Data Workflows and the Multilinguality Challenge. Journal of Open Humanities Data, 10, 27. https://doi.org/10.5334/johd.190

[Journal] Massari, A., Mariani, F., Heibi, I., Peroni, S., & Shotton, D. (2024). OpenCitations Meta. Quantitative Science Studies, 1–26. https://doi.org/10.1162/qss_a_00292

[Conference Proceedings] Barzaghi, S., Heibi, I., Moretti, A., & Peroni, S. (2024). Developing Application Profiles for Enhancing Data and Workflows in Cultural Heritage Digitisation Processes. ISWC2024 Conference. http://arxiv.org/abs/2404.12069

[Conference Proceedings] Massari, A., Peroni, S., Tomasi, F., & Heibi, I. (2023). Representing provenance and track changes of cultural heritage metadata in RDF: a survey of existing approaches. DH2023. https://doi.org/10.48550/ARXIV.2305.08477

[Conference Proceedings] Barzaghi, S., Collina, F., Fabbri, F., Giacomini, F., Bordignon, A., Balzani, R., Bitelli, G., Bonifazi, F., Cipriani, L., Colitti, S., Daquino, M., Fanini, B., Fantini, F., Ferdani, D., Florini, G., Formia, E., Forte, A., Girelli, Va. A., Gualandi, B., ... Vittuari, L. (2023). Digitisation of Temporary Exhibitions: the Aldrovandi Case. Eurographics Workshop on Graphics and Cultural Heritage. https://diglib.eg.org/items/49f3dbb3-1f5b-431c-95c2-3a653daf69c4

[Journal] Heibi, I., & Peroni, S. (2022). A quantitative and qualitative open citation analysis of retracted articles in the humanities. Quantitative Science Studies, 1–46. https://doi.org/10.1162/qss_a_00222

[Journal] Heibi, I., & Peroni, S. (2022). A protocol to gather, characterize and analyze incoming citations of retracted articles. PLOS ONE, 17(7), e0270872. https://doi.org/10.1371/journal.pone.0270872

[Journal] Daquino, M., Heibi, I., Peroni, S., & Shotton, D. (2022). Creating RESTful APIs over SPARQL endpoints using RAMOSE. Semantic Web, 13(2), 195–213. https://doi.org/10.3233/SW-210439

[Journal] Di Giambattista, C., Heibi, I., Peroni, S., & Shotton, D. (2022). OpenCitations: an Open e-Infrastructure to Foster Maximum Reuse of Citation Data. International Journal of Digital Curation, 17(1), 5. https://doi.org/10.2218/ijdc.v17i1.818

[Conference Proceedings] Grieco, G., Heibi, I., Massari, A., Moretti, A., & Peroni, S. (2022). Enabling Portability and Reusability of Open Science Infrastructures. In G. Silvello, O. Corcho, P. Manghi, G. M. Di Nunzio, K. Golub, N. Ferro, & A. Poggi (Eds.), Linking Theory and Practice of Digital Libraries (Vol. 13541, pp. 379–385). Springer International Publishing. https://doi.org/10.1007/978-3-031-16802-4_36

[Conference Proceedings] Heibi, I., & Peroni, S. (2022). Why arts and humanities publications get retracted: a topic modeling analysis of the retraction notices. DH2022 Conference Proceedings. DH2022, Japan.
https://dh2022.dhii.asia/dh2022bookofabsts.pdf

[Conference Proceedings] Massari, A., & Heibi, I. (2022). How to structure citations data and bibliographic metadata in the OpenCitations accepted format. CEUR Workshop Proceedings. CEUR 2022.
https://ceur-ws.org/Vol-3220/invited-talk2.pdf

[Journal] Heibi, I., & Peroni, S. (2021). A qualitative and quantitative analysis of open citations to retracted articles: the Wakefield 1998 et al.'s case. Scientometrics. https://doi.org/10.1007/s11192-021-04097-5

[Conference Proceedings] Heibi, I., Peroni, S., Pareschi, L., & Ferri, P. (2021). MITAO: a tool for enabling scholars in the humanities to use Topic Modeling in their studies. AIUCD2021 Proceedings. AIUCD2021.
https://doi.org/10.6092/UNIBO/AMSACTA/6712

[Journal] Ferri, P., Heibi, I., Pareschi, L., & Peroni, S. (2020). MITAO: A User Friendly and Modular Software for Topic Modelling. PuntOorg International Journal, 5(2), 135–149. https://doi.org/10.19245/25.05.pij.5.2.3

[Journal] Heibi, I., Peroni, S., & Shotton, D. (2019). Enabling text search on SPARQL endpoints through OSCAR. Data Science, 1–23.
https://doi.org/10.3233/DS-190016

[Journal] Heibi, I., Peroni, S., & Shotton, D. (2019). Software review: COCI, the OpenCitations Index of Crossref open DOI-to-DOI citations. Scientometrics, 121(2), 1213–1228. https://doi.org/10.1007/s11192-019-03217-6

[Conference Proceedings] Heibi, I., Peroni, S., & Shotton, D. (2019). Crowdsourcing open citations with CROCI -- An analysis of the current status of open citations, and a proposal. Proceedings of the 17th International Conference on Scientometrics and Informetrics (ISSI 2019). International Conference on Scientometrics and Informetrics (ISSI 2019).
https://www.issi-society.org/proceedings/issi_2019/ISSI%202019%20-%20Proceedings%20VOLUME%20II.pdf

[Conference Proceedings] Heibi, I., Peroni, S., & Shotton, D. (2018). OSCAR: A Customisable Tool for Free-Text Search over SPARQL Endpoints. In A. González-Beltrán, F. Osborne, S. Peroni, & S. Vahdati (Eds.), Semantics, Analytics, Visualization (Vol. 10959, pp. 121–137). Springer International Publishing.
https://doi.org/10.1007/978-3-030-01379-0_9