

Federica Bologna

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Research Interests

Natural Language Processing (NLP), Healthcare, Large Language Models (LLMs), Patient-Centered Care, Gender Equity, Cultural Analytics, Causal Inference

Selected Research Experience

Evaluation of Generative Language Models for Patient Question Answering

Ithaca, NY

Cornell University

Sep 2023 - Present

- Investigated the information quality, empathy, and actionability of GPT4 responses to endometriosis-specific and general patient questions.
- Compared GPT4 performance for patient question answering across three prompting strategies.
- Formulating recommendations for patients on how to use prompts to receive more accurate responses from GPT-based tools.

Reddit Users' Perceptions of Excision and Ablation Surgery

Ithaca, NY

Cornell University, Weill Cornell

Jun 2023 - Sep 2023

- Analyzed user sentiment toward mentions of excision or ablation surgery, as well as support type and topics most associated with each surgery in two endometriosis subreddits.
- Leveraged a combination of few-shot classification with GPT4, fine-tuning and supervised classification with DistilBERT, and topic modeling.
- Submitted publication and presented findings at the 2023 global congress of the [American Association of Gynecologic Laparoscopists \(AAGL\)](#).

User Needs and Peer Support in Endometriosis Online Communities

Ithaca, NY

Cornell University

Sep 2021 - Dec 2022

- Investigated aggregate patients' needs, impact of relationships on patients' experiences, and peer support practices in two endometriosis online communities.
- Identified trends between a post's subject matter, the people and relationships mentioned, and the type of support the post seeks using supervised classification with DistilBERT and LDA topic modeling.
- Submitted publication and presented preliminary findings at [DH2022](#).

Selected Work Experience

NYC Health + Hospitals

New York, NY

Siegel Family Endowment [PiTech PhD Impact Fellow](#)

Jun 2023 - Aug 2023

- Evaluated the impact of current policies at relieving nurses' alert fatigue using data analysis.
- Provided design recommendations to improve the integration of medical alerts within nurses workflows after having conducted and analyzed interviews.

Cornell University

Teaching Assistant for [Studying Social Inequality with Data Science](#)

Ithaca, NY

Jan 2023 - May 2023

- I won an **Outstanding Teaching Award**, wohoo!
- Delivered [a lecture](#) on non-parametric estimation of causal effects.
- Curated [this independent investigation](#) students conducted over multiple classes.

University of Bologna

Research Assistant

Bologna, Italy

Aug 2020 - Jul 2021

- Evaluated the suitability of open access datasets for academic evaluation processes and examined committees' decisions with citation network analysis and supervised classification.
- Built a pipeline to collect and manage 275M+ bibliographic and citation records from Microsoft Academic Graph, Crossref, OpenAIRE and OpenCitations.
- Published results [Quantitative Science Studies](#) and [Scientometrics](#).

Publications

- Under review **Endometriosis Online Communities: A Quantitative Analysis**
Federica Bologna, Rosamond Thalcken, David Mimno, Matthew Wilkens
- Under review **Stylometric Identification of the “Unknown Male Author” in Veronica Franco’s *Terze rime***
Giulia Andreoni, **Federica Bologna**, Marilyn Migiel
- 2022 **[Do open citations give insights on the qualitative peer-review evaluation in research assessments? An analysis of the Italian National Scientific Qualification](#)**
Federica Bologna, Angelo Di Iorio, Silvio Peroni, Francesco Poggi
Scientometrics
- 2022 **[Open bibliographic data and the Italian National Scientific Qualification: Measuring coverage of academic fields](#)**
Federica Bologna, Angelo Di Iorio, Silvio Peroni, Francesco Poggi
Quantitative Science Studies
- 2020 **[A Computational Approach to Urban Space in Science Fiction](#)**
Federica Bologna
Journal of Cultural Analytics

Education

Cornell University

Ph.D. in Information Science | Minor: Sociology

Ithaca, N.Y.

Expected May 2027

University of Bologna

M.A. in Modern, Post-Colonial and Comparative Literature

Bologna, Italy

2020

Skills

Programming Python (Scikit-learn, BERT, Spacy, NLTK, Pandas, NumPy, Matplotlib, Plotly, Seaborn etc.), R (tidyverse), Bash

Tools Git(Hub), \LaTeX (Overleaf), Qualtrics, Hugging Face, Microsoft Office

Methods NLP (supervised classification, topic modeling, etc.), Quantitative (causal inference, data analysis, statistical testing), Qualitative (surveys)

Fun facts :)

I am obsessed with [poetry](#), cats, [yoga](#), thrift-shopping, and binge-watching animes.