

Federica Bologna

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Education

Cornell University

Ph.D. in Information Science | Focus: AI/ML for Healthcare

Ithaca, N.Y.

Expected May 2026

Cornell University

M.S. in Information Science

Ithaca, N.Y.

Feb 2024

Selected Work Experience

Cornell University

Teaching Assistant, Data Science and Machine Learning

Ithaca, NY

Jan 2021 - Dec 2024

- Taught weekly sections on data science, machine learning (ML), and natural language processing (NLP).
- Delivered lectures on [social media analysis with NLP](#) and [non-parametric estimation of causal effects](#).
- Curated a class activity on [how to explore data sets](#) to answer social science questions.

NYC Health + Hospitals

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

New York, NY

Jun - Aug 2023

- Evaluated management of medical alerts by comparing pre- and post- intervention alert rates using non-parametric statistical testing.
- Demonstrated that revising alert criteria can reduce unnecessary alerts by up to 94%, while improving alert design can reduce overridden alerts by up to 64%.
- Provided strategies to revise alerts to hospital leadership, soon to be implemented by the informatics team.

Selected Projects

Generative AI for Patient Question Answering

Cornell University, Columbia University

Ithaca, NY

Sep 2023 - Mar 2024

- Developed pipeline to extract patient questions from Reddit using a fine-tuned large language model (BERT).
- Engineered three prompting strategies to improve GPT-4-generated responses to clinical questions.
- Leveraged non-parametric statistical testing to compare the quality of the answers across prompting strategies.

Endometriosis Communities on Reddit: A Quantitative Analysis

Cornell University, Weill Cornell

Ithaca, NY

Jun - Sep 2023

- Leveraged a wide range of machine learning techniques including few-shot classification with a generative AI model (GPT-4) and fine-tuning of a large language model (DistilBERT) to analyze user needs and support strategies in endometriosis communities on Reddit.
- Published in the [Journal of Minimally Invasive Gynecology \(JMIG\)](#) and forthcoming in [Journal of Medical Internet Research](#).

Skills

Methods Large Language Models, Generative AI, Natural Language Processing, Causal Inference, Statistical Testing

Programming Python (Scikit-learn, TensorFlow, PyTorch, Hugging Face, Spacy, NLTK, Pandas, NumPy, etc.), R (tidyverse), Bash, SQL

Tools VSCode, Jupyter, Git(Hub), Streamlit, \LaTeX (Overleaf), Qualtrics, Microsoft Office