Maria Antoniak

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🌐 http://maria-antoniak.github.io

Research Interests

natural language processing • computational social science • cultural analytics • unsupervised methods • online communities • wellbeing • affect

Education

2016-Present **Ph.D. Information Science**, Cornell University
- Advisor: David Mimno
- Committee Members: Lillian Lee, Jeff Rzeszotarski, Richard Jean So
- Minor: Computer Science

2013-2014 **M.S. Computational Linguistics**, University of Washington
- Advisor: Fei Xia
- Thesis: *Extracting Topically Related Synonyms from Twitter*

2007-2011 **B.A. Program of Liberal Studies**, University of Notre Dame
- Glynn Family Honors Program

Publications

Tags, Borders, and Catalogs: Social Re-Working of Genre on LibraryThing
Maria Antoniak, Melanie Walsh, and David Mimno
Proceedings of the ACM on Human-Computer Interaction (CSCW), 2021

The Goodreads "Classics": A Computational Study of Readers, Amazon, and Crowdsourced Literary Criticism
Melanie Walsh and **Maria Antoniak**
Post45 x Journal of Cultural Analytics, 2021

Imagined examples of painful experiences provided by chronic low back pain patients and attributed a pain numerical rating score
Robert Stewart Griffin, **Maria Antoniak**, Phuong Dinh Mac, Vladimir Kramskiy, Seth Waldman, David Mimno
Frontiers in Neuroscience, 2020

Narrative Paths and Negotiation of Power in Birth Stories
Maria Antoniak, David Mimno, and Karen Levy
Proceedings of the ACM on Human-Computer Interaction (CSCW), 2019

[Evaluating the Stability of Embedding-based Word Similarities](#)
Maria Antoniak and David Mimno
Transactions of the Association for Computational Linguistics (TACL), 2018

[Natural Language Processing Techniques on Oil and Gas Drilling Data](#)
Maria Antoniak, Jeff Dagliesh, and Justin Lo
SPE Intelligent Energy Conference and Exhibition, 2016

[Leveraging Paraphrase Labels to Extract Synonyms from Twitter](#)
Maria Antoniak, Eric Bell, and Fei Xia
Proceedings of the Florida Artificial Intelligence Research Society Conference (FLAIRS), 2016

Workshop Presentations

Diverging Paths in Birth Stories: A Medical Dataset for Narrative Analysis.
Maria Antoniak and David Mimno.
Oral presentation at *Workshop for Narrative Understanding, NAACL*, 2019.

Comparative Analysis of Cultural Biases with Word Embeddings.
Maria Antoniak and David Mimno.
Poster presented at *Text as Data (TADA)*, 2018.

Evaluating the Stability of Embedding-based Word Similarities.
Maria Antoniak and David Mimno.
Poster presented at *Amazon Graduate Research Symposium*, 2017.

Extracting Topically Related Synonyms from Twitter.
Maria Antoniak, Eric Bell, and Fei Xia.
Poster presented at *Workshop for Women in Machine Learning (WiML)*, collocated with *NeurIPS*, 2015.

Panels & Talks

Building Social Bonds in Online Gaming Communities.
Maria Antoniak and Alexandra Olteanu
Microsoft AI & Gaming Research Summit, 2021.

Narrative Paths and Negotiation of Power in Birth Stories.
University of Michigan, Data Science/Computational Social Science Seminar, 2020.

Replication and Computational Literary Studies.
Christof Schoch, Karina van Dalen-Oskam, Maria Antoniak, Fotis Jannidis, David Mimno.
Digital Humanities, 2020.

Cultural Analytics and the Book Review: Models, Methods, and Corpora.
Matthew J. Lavin, Kent Chang, Dan Sinykin, Melanie Walsh, Maria Antoniak, Kent Chang, Yuerong Hu, Wenyi Shang, Aniruddha Sharma, Shubhangi Singhal, Ted Underwood, Jessica Witte, and Peizhen Wu.
Digital Humanities, 2020.

Industry Experience

2021 Summer **Twitter**, Applied Research Intern (upcoming summer)
- Mentors: Rani Nelken

2020 June - 2021 May **Microsoft Research**, Research Intern
- Mentors: Fernando Diaz, Asia Biega, Alexandra Olteanu
- Team: Fairness, Accountability, Transparency, Ethics (FATE)
- Self-disclosure and trust in online gaming communities.

2019 Summer **Facebook**, Core Data Science Intern
- Mentors: Amit Bahl and Emma Ideal
- Unsupervised models of conversational roles in online health support and hiring groups.

2018 Summer **Microsoft Research**, Research Intern
- Mentor: Ranjani Ramamurthy
- Unsupervised extractive summarization of clinical dialogues for Project EmpowerMD.

2014-2016 **MAANA**, Data Scientist
- Led the data science design and implementation of successful proof-of-concept projects for Fortune 100 companies (e.g., Shell, General Electric, Chevron).
- Implemented the NLP sections of a Scala machine learning pipeline.
- Created a custom named entity recognition/normalization system for unstructured text and a query expansion system for the core product.

2014 Summer **Pacific Northwest National Laboratory**, National Security Intern
- Mentor: Eric Bell
- Twitter synonym extraction to improve paraphrase detection performance using machine translation metrics.
- Supported other NLP projects (sentiment analysis, topic modeling).

2013 Summer **Pacific Northwest National Laboratory**, Mobile Developer Intern
- Mentor: Courtney Corley
- Created *FoodFeed*, an interactive foodborne illness application using public health data from the FDA and CDC, which won PNNL's biosurveillance mobile app competition.

Teaching Experience

Fall 2020 TA, **CS/INFO 3350: Text Mining for History and Literature**, Cornell University
Fall 2019 TA, **CS/INFO 3350: Text Mining for History and Literature**, Cornell University
Spring 2019 TA, **CS/INFO 3300: Data-Driven Web Applications**, Cornell University
Spring 2017 TA, **CS/INFO 3300: Data-Driven Web Applications**, Cornell University
2011-2012 English Teacher, **Ukrainian Catholic University**, Lviv, Ukraine
2010 & 2011 TA, **Humanities Spring**, Assisi, Italy
2010-2011 TA, **First Year Writing Tutorial**, University of Notre Dame
2008-2011 Writing Tutor, **University Writing Center**, University of Notre Dame

Honors, Awards, & Scholarships

2018 Information Science Outstanding Service Award, *Cornell University*
2016-2017 Information Science Fellowship, *Cornell University*
2013 1st Place, *PNNL Biosurveillance Mobile App Development Competition*
2007-2011 Glynn Family Honors Program, *University of Notre Dame*
2007 National Merit Scholar, *National Merit Scholarship Program*

Professional Service

Reviewed for Student Research Workshop, *ACL 2021*
Reviewed for *NAACL 2021*
Reviewed for *EACL 2021*
Reviewed for *CHI 2021*
Reviewed for *EMNLP 2020*

Mentoring

2019-2020 *LeAnn McDowall*, undergraduate; data analysis of birth control websites; won Best Paper Award at the *Black in AI Workshop* at *NeurIPS* 2020.

Community Service

2020-2021 *President*, Graduate Students for Gender Inclusion in Computing
2020-2021 *Student Representative*, Broadening Participation in Information Science at Cornell
2020-2021 *Webmaster*, Cornell Graduate Women in Science
2019-2020 *President*, Graduate Students for Gender Inclusion in Computing
2019 *Lead Organizer*, Cornell Information Science Research Retreat
2019-2020 *Treasurer*, Cornell Graduate Women in Science
2018-2019 *Social Chair*, Cornell Graduate Women in Science
2018-2019 *Treasurer*, Information Science Graduate Student Association
2017-2018 *Vice President & Treasurer*, Information Science Graduate Student Association
2010-2011 *Editorial Board Member*, Notre Dame Journal of Undergraduate Research

Non-Degree Studies

2016 Summer Lisbon Machine Learning Summer School (LxMLS), *Lisbon, Portugal*
2011 Summer Ukrainian Language Summer School, *Lviv, Ukraine*
2010 Spring French Language & Culture, Université Catholique de l'Ouest, *Angers, France*