

## Michael Miller Yoder

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<https://michaellilleryoder.github.io>

EDUCATION	<b>Carnegie Mellon University</b> , Pittsburgh, PA	
	<i>Ph.D.</i> , Language and Information Technologies	2021
	Advisor: Carolyn P. Rosé	
	Thesis: “Computational models of identity presentation in language” PDF	
	<b>M.S.</b> , Language Technologies	2017
	<b>Goshen College</b> , Goshen, IN	
	<i>B.A.</i> , Computer Science	2013
	Minors: English, International Studies	
PROFESSIONAL EXPERIENCE	<b>Teaching Assistant Professor</b>	University of Pittsburgh Pittsburgh, PA
	2024–present	
	Teaching-track faculty member in the School of Computing and Information. Focusing on data science instruction to students from a wide variety of backgrounds in both in-person and online formats.	
	<b>Postdoctoral Research Associate</b>	Carnegie Mellon University Pittsburgh, PA
	2022–2024	
	Researcher with the Collaboratory Against Hate, an interdisciplinary initiative of Carnegie Mellon University and the University of Pittsburgh, as well as the Center for Informed Democracy and Social Cybersecurity at Carnegie Mellon University. Developing new methods for tracking and detecting hate speech in online contexts, incorporating insights from the social sciences. Advised by Prof. Kathleen M. Carley in the Software and Societal Systems Department and Prof. David West Brown in the Department of English.	
	<b>Part-Time Instructor</b>	University of Pittsburgh Pittsburgh, PA
	2023–2024	
	Instructor for graduate-level NLP course in the Department of Computer Science.	
	<b>Graduate Research Assistant</b>	Carnegie Mellon University Pittsburgh, PA
	2015–2021	
	Applied computational models of discourse to study social meaning in language, largely using social media datasets. Advised by Prof. Carolyn P. Rosé in the Language Technologies Institute.	
	<b>Software Engineering Intern</b>	Yahoo Research/Tumblr New York, NY
	2019	
	Detected communities of Tumblr users from social network structure. Explored community-specific language use. Advised by Dr. Kapil Thadani.	
	<b>Research Programmer/Analyst</b>	Carnegie Mellon University Pittsburgh, PA
	2015	
	Designed and implemented neuroimaging database to support machine learning research. Advised by Prof. Timothy Verstynen in the Department of Psychology.	
	<b>Software Developer &amp; IT Administrator</b>	GSAREH Austin, TX area
	2014	
	Developed applications to recognize and map named entities in English and Arabic articles and social media. Managed software development and IT administration of a small GIS startup named Geospatial Applied Research Experts House.	

## TEACHING

**Introduction to Natural Language Processing** HTML  
University of Pittsburgh  
Fall 2023, Spring 2024, Fall 2024  
Pittsburgh, PA  
Instructor for graduate-level NLP course. Developed coursework, including lectures, quizzes, and homework assignments. Guided hands-on, student-led projects.

**Introduction to Data-Centric Computing**  
University of Pittsburgh  
Fall 2024  
Online  
Instructor for graduate-level online course developed as part of the Applied Data-Driven Methods graduate certificate for working professionals. Guided student technical projects.

**Computational Ethics for Natural Language Processing** HTML  
Carnegie Mellon University  
Spring 2020  
Pittsburgh, PA  
Teaching assistant for newly developed NLP ethics course with Profs. Yulia Tsvetkov and Alan Black. Gave guest lectures, developed homeworks, and graded coursework.

**Applied Machine Learning**  
Carnegie Mellon University  
Spring 2019  
Pittsburgh, PA  
Teaching assistant with Prof. Carolyn P. Rosé for a hands-on machine learning course developed for a broad range of students, including those without computer science backgrounds. Gave guest lectures, advised students in office hours, and graded coursework.

**Introduction to Artificial Intelligence**  
Goshen College  
Spring 2013  
Goshen, IN  
Selected as a tutor for introductory artificial intelligence course. Assisted students one-on-one with AI concepts and coursework.

## RESEARCH INTERESTS

Natural language processing, computational social science, data science, AI ethics, digital humanities, sociolinguistics, hate speech, language and identity

## CONFERENCE PUBLICATIONS

### **Pandemic Personas: Analyzing Identity Signals in COVID-19 Discourse on Twitter**

Scott Leo Renshaw, Samantha C. Phillips, Michael Miller Yoder, Kathleen M. Carley  
*Proceedings of the International Conference on Social Computing, Behavioral-Cultural Modeling & Prediction and Behavior Representation in Modeling and Simulation (SBP-BRiMS)*. 2023.

### **A Weakly Supervised Classifier and Dataset of White Supremacist Language**

Michael Miller Yoder, Ahmad Diab, David West Brown, Kathleen M. Carley  
*Proceedings of the Association for Computational Linguistics (ACL)*. 2023. PDF

### **How Hate Speech Varies by Target Identity: A Computational Analysis**

Michael Miller Yoder, Lynnette Hui Xian Ng, David West Brown, Kathleen M. Carley  
*Proceedings of the Conference on Computational Natural Language Learning (CoNLL)*, 2022. PDF.

### **Modeling Unstructured Data: Teachers as Learners and Designers of Technology-enhanced Artificial Intelligence Curriculum**

Cansu Tatar, Michael Miller Yoder, Madeleine Coven, Kenia Wiedemann, Jie Chao, William Finzer, Shiyan Jiang, Carolyn P. Rosé  
*Proceedings of the International Society of the Learning Sciences*, 2021. PDF.

**Phans, Stans and Cishets: Self-presentation Effects on Content Propagation in Tumblr**

Michael Miller Yoder, Qinlan Shen, Yansen Wang, Alex Coda, Yunseok Jang, Yale Song, Kapil Thadani, Carolyn P. Rosé  
*Proceedings of the ACM Conference on Web Science (WebSci)*, 2020. PDF.

**Perceptions of Censorship and Moderation Bias in Political Debate Forums**

Qinlan Shen, Michael Miller Yoder, Yohan Jo, Carolyn P. Rosé  
*Proceedings of the International AAAI Conference on Web and Social Media (ICWSM)*, 2018. PDF.

**Roles and Success in Wikipedia Talk Pages: Identifying Latent Patterns of Behavior**

Keith Maki, Michael Miller Yoder, Yohan Jo, Carolyn P. Rosé  
*Proceedings of the International Joint Conference on Natural Language Processing (IJCNLP)*, 2017. PDF.  
**Best Student Paper Award.**

**Modeling Dialogue Acts with Content Word Filtering and Speaker Preferences**

Yohan Jo, Michael Miller Yoder, Hyeju Jang, Carolyn P. Rosé  
*Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2017. PDF.

**Metaphor Detection with Topic Transition, Emotion and Cognition in Context**

Hyeju Jang, Yohan Jo, Qinlan Shen, Michael Miller, Shane Moon, Carolyn P. Rosé  
*Proceedings of the Association for Computational Linguistics (ACL)*, 2016. PDF.

JOURNAL  
ARTICLES

**An empirical analysis of high school students’ practices of modelling with unstructured data**

Shiyan Jiang, Amato Nocera, Cansu Tatar, Michael Miller Yoder, Jie Chao, Kenia Wiedemann, William Finzer, Carolyn P. Rosé  
*British Journal of Educational Technology*, 1–20, 2022. HTML.

**Unpacking a political icon: “Bike lanes” and orders of indexicality**

Michael Miller Yoder, Barbara Johnstone  
*Discourse & Communication*, 12(2), 192–208, 2018.

WORKSHOP  
PUBLICATIONS

**Identity Construction in a Misogynist Incels Forum**

Michael Miller Yoder, Chloe Perry, David West Brown, Kathleen M. Carley, Meredith L. Pruden  
*Proceedings of the Workshop on Online Abuse and Harms (WOAH)*. 2023. PDF

**Online to Offline Crossover of White Supremacist Propaganda**

Ahmad Diab, Bolor-Erdene Jagdagdorj, Lynnette Hui Xian Ng, Yu-Ru Lin, Michael Miller Yoder  
*International Workshop on Cyber Social Threats (CySoc), Companion Proceedings of the ACM Web Conference (WWW)*, 2023.

**FanfictionNLP: A Text Processing Pipeline for Fanfiction**

Michael Miller Yoder, Sopan Khosla, Qinlan Shen, Aakanksha Naik, Huiming Jin, Hariharan Muralidharan, Carolyn P. Rosé  
*Proceedings of the Workshop on Narrative Understanding (WNU)*, 2021. PDF.

**Code-Switching as a Social Act: The Case of Arabic Wikipedia Talk Pages**  
Michael Miller Yoder, Shruti Rijhwani, Carolyn P. Rosé, Lori Levin  
*Proceedings of the Workshop on Natural Language Processing and Computational Social Science (NLP+CSS)*, 2017. PDF.

WHITEPAPERS &  
DEMONSTRATIONS

**The Relationship Between Antisemitism and COVID-19 Conspiracy on Twitter**

Grace Garner, Madeleine McGrann, Maja Lynn, Rachel Kranson,  
Michael Miller Yoder, Daniel Klug  
Whitepaper, Collaboratory Against Hate, 2022. PDF.

**Research Needs for Countering Extremist Hate**

Michael Miller Yoder, Hana Habib  
Whitepaper, Collaboratory Against Hate, 2022. PDF.

**StoryQ: A Web-Based Machine Learning and Text Mining Tool for K-12 Students**

Jie Chao, Bill Finzer, Carolyn P. Rosé, Shiyan Jiang, Michael Miller Yoder,  
James Fiacco, Chas Murray, Cansu Tatar, Kenia Wiedemann  
*SIGCSE 2022: Proceedings of the 53rd ACM Technical Symposium on Computer Science Education V. 2*, 1178, 2022.

CONFERENCE  
PRESENTATIONS

**Challenges for Real-Time Toxicity Detection in Online Games**

Lynnette Hui Xian Ng, Adrian Xuan Wei Lim, Michael Miller Yoder  
Ethical Games Conference, virtual, 2024.

**The “chanification” of white supremacist extremism**

Michael Miller Yoder, Kathleen M. Carley  
Conference of the Center for Informed Democracy and Social Cybersecurity (IDeaS),  
Pittsburgh, PA, 2023.

**Digital Chameleons: Identity Signal Changes in COVID-19 Discourse on Twitter**

Samantha C. Phillips, Scott Leo Renshaw, Michael Miller Yoder, Kathleen M. Carley  
Conference of the Center for Informed Democracy and Social Cybersecurity (IDeaS),  
Pittsburgh, PA, 2023.

**The Relationship Between Antisemitism and COVID-19 Conspiracies on Twitter**

Grace Garner, Madeleine McGrann, Daniel Klug, Rachel Kranson,  
Michael Miller Yoder  
International Communication Association Conference, Toronto, Canada, 2023.

**The Spatiotemporal Reach of Hate Narratives**

Ahmad Diab, Michael Miller Yoder, Yu-Ru Lin  
Eradicate Hate Global Summit 2022 Poster Session, Pittsburgh, PA, 2022.

**The Relationship Between Antisemitism and COVID-19 Conspiracy on Twitter**

Grace Garner, Madeleine McGrann, Maja Lynn, Rachel Kranson, Daniel Klug,  
Michael Miller Yoder  
Eradicate Hate Global Summit 2022 Poster Session, Pittsburgh, PA, 2022.

**“Everyone is gay and nothing hurts”:  
the presentation of queer relationships in fanfiction**

Michael Miller Yoder, Luke Breitfeller, Carolyn P. Rosé  
Association for Computers and the Humanities, Pittsburgh, PA, 2019.

**Ron the Death Eater: plotting characterization from canon to fanfiction**

Michael Miller Yoder, Qinlan Shen, James Fiocco, Carolyn P. Rosé  
Society for Text & Discourse, New York, NY, 2019.

**Identity and interaction on Tumblr**

Michael Miller Yoder, Qinlan Shen, Yansen Wang, Alex Coda, Yunseok Jang, Yale Song, Kapil Thadani, Carolyn P. Rosé  
Student Research Symposium  
Language Technologies Institute, Carnegie Mellon University, 2019.  
**Best Poster Award.**

**Linguistic liminality: Tamazight, Arabic and French in Guigou, Morocco**

Michael Miller  
Student Research Symposium, Goshen College, 2013.  
**Audience Choice Award.**

INVITED TALKS &  
PANELS

**Computational approaches to identities and language: case studies in online extremism**

A.W. Mellon Digital Humanities Workshop, Pittsburgh, PA, 2024.

**Using NLP to track white supremacist narratives over time**

Carnegie Mellon University Data Science Club, Pittsburgh, PA, 2024.

**Rethinking data: Subjectivity in the data science process and implications for bias in AI systems**

School of Computing and Information, University of Pittsburgh, Pittsburgh, PA, 2024.

**Algorithms against hate: Mapping online identities and ideologies with computational techniques**

Department of Mathematics and Computer Science, Duquesne University, Pittsburgh, PA, 2023.

**Computational approaches to identities and language**

A.W. Mellon Digital Humanities Workshop, Pittsburgh, PA, 2023.

**Beyond a hate speech binary**

Social Cybersecurity Working Group (virtual), 2022.

**Computational models for social good: Beyond bias and representation**  
*(panel)*

Conference on Social Computing, Behavioral-Cultural Modeling and Prediction and Behavior Representation in Modeling and Simulation (SBP-BRiMS), Pittsburgh, PA, 2022.

**Creating a resource directory for crisis** *(panel)*

Eradicate Hate Global Summit, Pittsburgh, PA, 2022.

**Detecting hate speech with natural language processing**

IdeaS Summer Institute, Carnegie Mellon University, Pittsburgh, PA, 2022.

**Computational models of identity presentation in language**

Department of Linguistics, University of Pittsburgh, Pittsburgh, PA, 2020.

HONORS &  
AWARDS

**Best Reviewer Award**

EMNLP 2023 Computational Social Science and Cultural Analytics

### **Outstanding Reviewer Award**

ACL 2021

### **Best Poster Award**

2019

Student Research Symposium

Language Technologies Institute, Carnegie Mellon University

### **Best Student Paper Award**

2017

International Joint Conference on Natural Language Processing (IJCNLP)

### **NSF Graduate Research Fellowship**

2015–2018

Awarded national fellowship with a focus area in natural language processing.

### **Audience Choice Award**

2013

Student Research Symposium, Goshen College

### **President's Leadership Award Scholarship, Goshen College**

2009–2013

Awarded top merit scholarship for leadership in academic studies.

### ACADEMIC SERVICE

#### *Organizing:*

- Collaboratory Against Hate Workshop on Practitioner Research Needs, 2022
- Eradicate Hate Global Summit 2022 Poster Session

#### *Committees:*

- Master's Thesis Committee, Raja Krishnaswamy, April 2024
- Judge Panel, Hacking4Humanity 2023
- Co-Director Search Committee, Collaboratory Against Hate, 2023
- Diversity, Equity, and Inclusion Committee, CMU Language Technologies Institute, 2020-2021
- Anti-Racism Working Group, CMU School of Computer Science Dean's PhD Advisory Committee, 2020-2021
- Update.org Data Science for Social Good Fellows Mentor Committee, 2019

#### *Reviewing (NLP and Computational Social Science):*

- ACL Rolling Review (2022- )
- SPELLL 2023
- *ACM Journal on Computing & Sustainable Societies*, 2023
- *EPJ Data Science*, 2023
- *Computational and Mathematical Organization Theory*, 2022, 2024
- USEC 2022
- EMNLP Computational Social Science and Cultural Analytics track 2022, 2023  
(**Best Reviewer Award**)
- ACL 2021 (**Outstanding Reviewer Award**), 2023
- CoNLL 2020, 2022
- Bridging Human-Computer Interaction and NLP Workshop (HCI+NLP) 2021
- NAACL, AACL and ACL Student Research Workshops 2020, 2021, 2022, 2024

- Human and Machine-in-the-Loop Evaluation and Learning Strategies Workshop (HAMLETS @ NeurIPS) 2020

*Reviewing (Digital Humanities):*

- *Between Invention and Audience: DocuScope and the Rhetorical Approach to Corpus Analysis* (Studies in Corpus Linguistics, John Benjamins Press), 2022
- *Humanities* journal, special issue on fanfiction, 2022
- Association for Computers and the Humanities (ACH) 2021
- Digital Humanities (DH) 2020

## INTERNATIONAL EXPERIENCE

### **Bicycle Tourist**

2013–2014

Paraguay, South America to Indiana, USA

Bicycled with a group of three over 10,000 miles from South America to the United States on an 11-month self-supported journey. Learned conversational Spanish and gained familiarity with Latin American culture.

### **Researcher and Service Worker**

2012

Meknes and Guigou, Morocco

Studied Moroccan language and culture for 12 weeks while living with host families in urban and rural settings. Researched code-switching among Tamazight, French, Colloquial and Modern Standard Arabic speakers in the Middle Atlas Mountains.

### **Youth Camp Volunteer**

2011

West Bank, Palestine & Israel

Studied and practiced Levantine and Modern Standard Arabic for 9 weeks. Participated in history and learning tours of the Israeli-Palestinian conflict while living with a Palestinian friend's family. Facilitated crafts and games for Palestinian youth.