

Katherine Atwell

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PhD candidate at Northeastern University, studying under Malihe Alikhani. I'm interested in using NLP to create a positive impact, and have utilized NLP tools for law, social media moderation, political ideology detection, and inter-group bias studies. I also have deployed accessible language technologies in real-world settings.

EDUCATION

- 2026 **Ph.D., Computer Science**
Northeastern University
GPA: 4.0
- 2020 **B.S., Computer Science**
University of Maryland, Baltimore County
- 2020 **B.S., Mathematics**
University of Maryland, Baltimore County

WORK/ INDUSTRY EXPERIENCE

- 2023 **Team Member - Alexa Prize TaskBot Challenge II**
University of Pittsburgh
Deployed task-oriented dialogue system to real Alexa users; won third place
- Summer 2019 **Software Engineering Intern**
Google, Inc.
Developed a visualization tool for the Data Studio team
- Summer 2018 **Engineering Practicum Intern**
Google, Inc.
Built an internal dashboarding tool for YouTube
- Summer 2017 **Research Intern (SPIRE-EIT REU)**
Iowa State University
Designed the UX for a new software for Traffic Incident Managers

PUBLICATIONS

- **Generating Signed Language Instructions in Large-Scale Dialogue Systems**
Mert Inan, **Katherine Atwell**, Anthony Sicilia, Lorna Quandt, Malihe Alikhani
Proceedings of the 2024 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (Volume 6: Industry Track). 2024.
- **Studying and Mitigating Biases in Sign Language Understanding Models**
Katherine Atwell, Danielle Bragg, Malihe Alikhani
Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing. 2024.
- **The Importance of Including Signed Languages in Natural Language Processing**
Kayo Yin, **Katherine Atwell**, Julie A Hochgesang, Malihe Alikhani
Sign Language Machine Translation, Springer Nature Switzerland. 2024.
- **Combining Discourse Coherence with Large Language Models for More Inclusive, Equitable, and Robust Task-Oriented Dialogue**
Katherine Atwell, Mert Inan, Anthony B Sicilia, Malihe Alikhani
Proceedings of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024). 2024.
- **Dialogue with Robots: Proposals for Broadening Participation and Research in the SLIVAR Community**
Casey Kennington, Malihe Alikhani, Heather Pon-Barry, **Katherine Atwell**, Yonatan Bisk, Daniel Fried, Felix Gervits, Zhao Han, Mert Inan, Michael Johnston, Raj Korpan, Diane Litman, Matthew Marge, Cynthia Matuszek, Ross Mead, Shiwali Mohan, Raymond Mooney, Natalie Parde, Jivko Sinapov, Angela Stewart, Matthew Stone, Stefanie Tellex, Tom Williams
arXiv preprint arXiv:2404.01158. 2024.
- **ISABEL: An inclusive and collaborative task-oriented dialogue system**
Anthony Sicilia, Yuya Asano, **Katherine Atwell**, Qi Cheng, Dipunj Gupta, Sabit Hassan, Mert Inan, Jennifer Nwogu, Paras Sharma, Malihe Alikhani.
Alexa Prize TaskBot Challenge 2 Proceedings. 2023.

- **Multilingual Content Moderation: A Case Study on Reddit.**
Meng Ye, Karan Sikka, **Katherine Atwell**, Sabit Hassan, Ajay Divakaran, Malihe Alikhani.
17th Conference of the European Chapter of the Association for Computational Linguistics. 2023.
- **How people talk about each other: Modeling Generalized Intergroup Bias and Emotion**
Venkata Govindarajan, **Katherine Atwell**, Barea Sinno, Malihe Alikhani, David Beaver, Junyi Jessy Li.
17th Conference of the European Chapter of the Association for Computational Linguistics. 2023.
- **APPDIA: A Discourse-aware Transformer-based Style Transfer Model for Offensive Social Media Conversations**
Katherine Atwell*, Sabit Hassan*, Malihe Alikhani
Proceedings of the 29th International Conference on Computational Linguistics. 2022.
- **The Role of Context and Uncertainty in Shallow Discourse Parsing**
Katherine Atwell, Remi Choi, Junyi Jessy Li, Malihe Alikhani
Proceedings of the 29th International Conference on Computational Linguistics. 2022.
- **PAC-Bayesian Domain Adaptation Bounds for Multiclass Learners**
Anthony Sicilia, **Katherine Atwell**, Malihe Alikhani, Seong Jae Hwang
Proceedings of the Thirty-Eighth Conference on Uncertainty in Artificial Intelligence. 2022.
- **Political Ideology and Polarization: A Multi-dimensional Approach**
Barea Sinno*, Bernardo Oviedo*, **Katherine Atwell***, Malihe Alikhani, Junyi Jessy Li
Proceedings of the 2022 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies. 2022.
- **The Change that Matters in Discourse Parsing: Estimating the Impact of Domain Shift on Parser Error**
Katherine Atwell*, Anthony Sicilia*, Seong Jae Hwang, Malihe Alikhani
Findings of the Association for Computational Linguistics: ACL 2022. 2022.
- **Where Are We in Discourse Relation Recognition?**
Katherine Atwell, Junyi Jessy Li, Malihe Alikhani
Proceedings of the 22nd Annual Meeting of the Special Interest Group on Discourse and Dialogue. 2021.
- **Developing an Optimized UI for Traffic Incident Managers**
Andrina Helgersen, Jamiahus Walton, Celia Loya, Christopher Kawell, **Katherine Atwell**, Quinn Monaghan, Lakshay Ahuja, Hesham Hassan, Stephen Gilbert, & Anuj Sharma
Proceedings of the Human Factors and Ergonomics Society Annual Meeting. 2018.

TEACHING EXPERIENCE

2024	Teaching Assistant Northeastern University Teaching assistant for unsupervised learning course
2021-2022	Research Mentor University of Pittsburgh Mentored five undergraduate students for various research projects
2021	Teaching Assistant University of Pittsburgh Teaching assistant for AI ethics course
2019-2020	Teaching Assistant University of Maryland, Baltimore County Teaching assistant for object-oriented programming course
2018	Teaching Assistant University of Maryland, Baltimore County Teaching assistant for Calculus I
2017-2019	Math Tutor University of Maryland, Baltimore County Tutored for variety of math classes for the Learning Resource Center

AWARDS

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| 2023 | Third Place
<i>Alexa Prize TaskBot Challenge</i> |
| 2022 | Best Paper
<i>Association for Uncertainty in Artificial Intelligence</i> |
| 2022 | Scholarship Recipient
<i>CRA-W Scholarship for Early Career Workshop and the Graduate Cohort</i> |
| 2020, 2018 | Scholarship Recipient
<i>Grace Hopper</i> |
| 2016-2020 | Meyerhoff Scholar
<i>University of Maryland, Baltimore County</i> |

INVITED TALKS

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| 2024 | Conversational AI Systems
<i>Northeastern University</i> |
| 2023 | Coreference
<i>University of Pittsburgh</i> |
| 2022 | APPDIA: A Discourse-aware Transformer-based Style Transfer Model for Offensive Social Media Conversations
<i>The University of Texas at Austin</i> |

ACADEMIC SERVICE

Organizer: *NLP for Positive Impact 2025, PittInclusion 2023*
Area Chair: *CoNLL 2024*
Ethics Reviewer: *ACL Rolling Review*
Reviewer: *ACL Rolling Review, EMNLP, ACL, NAACL, UAI, ACM FAccT, Journal of Educational Data Mining, INLG, AAAI*
Program Committee: *ACM FAccT, SIGDIAL, Workshop on Computational Approaches to Discourse*
Graduate Application Reviewer: *Northeastern University*
