SARAH E. FINCH

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EDUCATION

Emory University, Atlanta, Georgia   *Aug. 2018 - May 2024*
Ph.D., Computer Science   GPA: 3.98
Awarded: *George W. Woodruff Fellowship,*
              Emory University Schoettle Research Award

Michigan State University, East Lansing, Michigan   *Aug. 2014 - May 2018*
Bachelor of Science in Computer Science, Minor in Cognitive Science   GPA: 4.00

RESEARCH EXPERIENCE

Natural Language Processing Lab   *Ongoing*
Dr. Jinho Choi, Emory University

- Improved response specificity for open-domain dialogue by augmenting response generation with commonsense inferences

- Developed state-of-the-art model for generating reasonable and novel commonsense inferences for dialogue

- Investigated the impact of evaluator group on dialogue system evaluations by quantifying system-level and conversation-level outcomes

- Designed dialogue behavior analysis methods for neural dialogue models that are more successful at fine-grained dimensional chatbot evaluation than existing likert and comparative methods

- Developed a regression analysis approach to decomposing conversation-level user ratings into utterance-level quality ratings

- Analyzed current approaches for dialogue system evaluation

Emory Virtual Assistant: Senior Researcher   *Sept. 2022 - Aug. 2023*
Dr. Jinho Choi, Emory University

- Guided an undergraduate team in their development of a virtual assistant for Emory students that provides both chit-chat functionality and educational/coursework support

- Designed a database scheme to support asynchronous student-student and student-professor interactions through the virtual assistant

Generative AI Intern   *May - Aug. 2022*
Amol Kelkar, Got It AI

- Developed an article-grounded conversational question-answering dialogue system that minimized the fabrication of information

- Implemented prompt-based large language model approaches to information-retrieval, hallucination-detection, and response generation

- End-to-end performance improvement verified by internal human-bot test parties and internal evaluation datasets

Amazon Alexa Prize Socialbot Grand Challenge 4: Co-Team-Lead *Sept. 2020 - July 2021*
Dr. Jinho Choi, Emory University

- Developed an inference-driven dialogue engine with a semantic graph dialogue representation constructed using machine-learning models

- Managed a 6-student team to develop a conversational agent that advanced to Finals Round

Amazon Alexa Prize Socialbot Grand Challenge 3: Co-Team-Lead *July 2019 - July 2020*
Dr. Jinho Choi, Emory University

- Placed 1st (out of 10 total teams) by achieving an average score of 3.81 on a 5-point scale (0.64 higher than second place) and an average conversation duration of 7 minutes and 37 seconds

- Implemented a unified state-machine-based dialogue management and topic transition framework

- Managed a 14-student team to develop a conversational agent

Intelligent Information Access Lab *Aug. 2018 - May 2019*
Dr. Eugene Agichtein, Emory University

- Investigated a language-based approach for predicting user engagement in conversational systems

NSF REU: Research in Interactive Virtual Experiences *May - Aug. 2017*
Dr. David Traum, ICT at University of Southern California

- Created a corpus of chat-oriented dialogues annotated for personal information

- Implemented a word-embedding approach for extracting personal information from dialogue

Language and Interaction Research Group *Sept. 2015 - May 2018*
Dr. Joyce Chai, Michigan State University

- Aided in the implementation of an end-to-end multi-modal task-learning BAXTER robot

PUBLICATIONS

Sarah E. Finch and Jinho Choi. 2024. "ConvoSense: Overcoming Monotonous Commonsense Inferences for Conversational AI." *Transactions of the Association for Computational Linguistics, under copyediting.*

Sarah E. Finch, James D. Finch, and Jinho Choi. 2024. "Exploring the Impact of Human Evaluator Group on Chat-Oriented Dialogue Evaluation." In *The 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING).*

Sarah E. Finch, Ellie S. Paek, and Jinho Choi. 2023. "Leveraging Large Language Models for Automated Dialogue Analysis." In *Proceedings of the 24th Annual Meeting of the Special Interest Group on Discourse and Dialogue (SIGDIAL).*

Sarah E. Finch, James D. Finch, and Jinho Choi. 2023. "Don't Forget Your ABC's: Evaluating the State-of-the-Art in Chat-Oriented Dialogue Systems." In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (ACL).*

James D. Finch, **Sarah E. Finch**, and Jinho Choi. 2021. "What Went Wrong? Explaining Overall Dialogue Quality through Utterance-Level Impacts." In *3rd Workshop on NLP for ConvAI.*

Sarah E. Finch, James D. Finch, Daniil Huryn, William Hutsell, Xiaoyuan Huang, Han He, and Jinho D. Choi. 2021. "An Approach to Inference-Driven Dialogue Management within a Social Chatbot." In *4th Proceedings of the Alexa Prize.*

Sarah E. Finch and Jinho Choi. 2020. "Towards Unified Dialogue System Evaluation: A Comprehensive Analysis of Current Evaluation Protocols." In *Proceedings of the 21st Annual Meeting of the Special Interest Group on Discourse and Dialogue (SIGDIAL)*.

Sarah E. Finch, James D. Finch, Ali Ahmadvand, Ingyu (Jason) Choi, Xiangjue Dong, Ruixiang Qi, Harshita Sahijwani, Sergey Volokhin, Zihan Wang, Zihao Wang, and Jinho D. Choi. 2020. "Emora: An Inquisitive Social Chatbot Who Cares For You." In *3rd Proceedings of the Alexa Prize*.

Sarah Fillwock and David Traum. 2018. "Identification of Personal Information Shared in Chat-Oriented Dialogue." In *Proceedings of the 11th International Conference on Language Resources and Evaluation (LREC)*, Miyazaki, Japan.

Sarah Fillwock, Changsong Liu, and Joyce Chai. 2016. "Dialogue Management for Task-Learning Human-Robot Dialogue." Poster presented at the *Mid-Michigan Symposium for Undergraduate Research Experiences*, Michigan State University, East Lansing, MI.

TEACHING EXPERIENCE

Teaching Assistant, **Computational Linguistics** (undergraduate)   *Jan. - May. 2020*
Faculty: Jinho Choi, Emory University

- Gave three lectures to ∼50 students

- Graded weekly quizzes and monthly projects

Teaching Assistant, **Artificial Intelligence** (graduate)   *Aug. - Dec. 2019*
Faculty: Eugene Agichtein, Emory University

- Gave two lectures to ∼30 students

- Graded bi-weekly projects

Teaching Assistant, **Introduction to Computer Science I** (undergraduate)   *Aug. - Dec. 2018*
Faculty: Davide Fossati, Emory University

- Proctored weekly quizzes for sessions of ∼30 students

- Graded weekly quizzes and bi-weekly projects

LEADERSHIP AND COMMUNITY OUTREACH

Prospective Student Preview Day Representative   *September 2019/2023*
Emory University, Atlanta, GA

- Hosted discussion meetings with prospective students about Emory University

- Delivered poster presentations showcasing research to attending students

ACL Student Volunteer   *July 2023*
Toronto, Canada

- Managed the general registration of conference attendees during high-traffic timeslots

- Demonstrated dedication by voluntarily extending scheduled volunteer timeslot to alleviate unexpected bottlenecks for social event preparation

- Aided the setup, teardown, and general organization of poster sessions

ACM-W Chapter: Women in Computing (WIC)
Michigan State University, East Lansing, MI

- Vice President   *April 2017 - April 2018*

- Secretary   *April 2016 - April 2017*
- Community Relations   *April 2015 - April 2016*