

Katy Felkner

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EDUCATION

University of Southern California | Los Angeles, CA

Aug. 2020 – Present

- Ph.D. in Computer Science | Expected 2026 | Supported by **NSF Graduate Research Fellowship**
- Coursework: Advanced Natural Language Processing, Advanced Algorithms, Crafting a Research Agenda in Computer Science, Representation Learning in NLP, Foundations of AI, Fairness in AI | **GPA: 3.88/4.00**

University of Oklahoma | Norman, OK

Aug. 2016 – May 2020

- B.S. in Computer Science (*summa cum laude*), B.A. in Letters (*summa cum laude*)
- Minor: Mathematics | **GPA: 4.00/4.00**

RESEARCH INTERESTS

My research focuses on developing high-quality, well-grounded benchmark datasets for fairness in LLMs, with particular emphasis on participatory, community-engaged methods and on safety and inclusivity for the LGBTQ+ community.

PUBLICATIONS

- **Virginia K. Felkner**, Jennifer A. Thompson, Jonathan May. *GPT is Not an Annotator: The Necessity of Human Annotation in Fairness Benchmark Construction*. Association for Computational Linguistics, 2024.
- **Virginia K. Felkner**, Ho-Chun Herbert Chang, Eugene Jang, Jonathan May. *WinoQueer: A Community-in-the-Loop Benchmark for Anti-LGBTQ+ Bias in Large Language Models*. Association for Computational Linguistics, 2023.
- **Virginia K. Felkner**, Ho-Chun Herbert Chang, Eugene Jang, Jonathan May. *Towards WinoQueer: Developing a Benchmark for Anti-Queer Bias in Large Language Models*. QueerInAI Affinity Group Workshop, NAACL 2022.
- Nicolaas Weideman, **Virginia K. Felkner**, Wei-Cheng Wu, Jonathan May, Christophe Hauser, Luis Garcia. *PERFUME: Programmatic Extraction and Refinement For Usability of Mathematical Expressions*. CheckMATE, ACM CCS 2021.
- **Virginia K. Felkner** and Elisabeth Moore. *Investigating the Efficacy of Unstructured Text Analysis for Node Failure Detection in Syslog*. Second Workshop on Machine Learning for Computing Systems, Supercomputing 2020.

RESEARCH EXPERIENCE

LLM Fairness and Bias, USC Information Sciences Institute – Graduate Research Assistant

Jan. 2022 – Present

- Design two novel, community-sourced benchmark datasets for detecting anti-LGBTQ+ and antisemitic bias in LLMs.
- Develop, distribute, and analyze 500 responses across two large-scale community surveys to inform LLM bias benchmarks.
- Lead team of 3 to collect 8M sentences of community data, then train 32 debiased models via finetuning on community data.
- Assess LLM capability to assist in fairness benchmark construction and conduct detailed human analysis of model failures.
- Lead interdisciplinary teams of coauthors to write and publish two papers in ACL Main Conference (2023, 2024).
- Mentor undergraduate student on project exploring textual entailment as an LLM bias metric.
- Work started as a class project for DSCI 531: Fairness in AI and continued under fellowship funding.
- Advisor/PI: Jonathan May

DARPA ReMATH, USC Information Sciences Institute – Graduate Research Assistant

Jan. 2021 – Jun. 2022

- Trained NMT models for extraction of symbolic math from assembly code and bit-vector expressions.
- Developed novel metrics for evaluation of NMT-generated mathematical expressions.
- Wrote relevant sections of workshop paper accepted to CheckMATE, ACM CCS 2021.

Border Translation Project, USC Information Sciences Institute – Graduate Research Assistant

Aug. 2020 – Dec. 2021

- Built and evaluated neural machine translation systems for extremely low-resource languages.
- Developed baseline NMT system for K'iche', a Mayan indigenous language, with intended application of helping NGOs provide legal assistance to immigrants and asylum seekers.

Los Alamos National Laboratory, Ultrascalse Systems Research Center — Research Intern

May 2020 – Aug. 2020

- Collected 750,000 lines of non-secret syslog data using a 20-node virtual compute cluster.
- Tested several word embedding and clustering algorithms to extract natural language features from supercomputer syslog.
- Showed that these natural language features can be used to improve HPC node failure detection and prediction.
- Mentor: Elisabeth Moore

Digital Latin Library — Undergraduate Research Assistant

Jan. 2017 – May 2020

- Wrote Python scripts to parse HTML documents containing Latin texts, generating 125000 lines of SQL output
- Designed scripts to automate XML encoding of Latin prose and poetry, reducing time to encode by a factor of 400
- Only undergraduate student accepted to National Endowment for the Humanities Institute on Advanced Topics in Digital Humanities for Summer 2018 at Tufts University
- Advisor: Samuel Huskey

PRESENTATIONS

Invited Talks

- Celebrate Track Invited Speaker, *Community-Sourced Bias Metrics for LLMs*, UCLA QWERHacks. Feb. 2025
- Invited Panelist on *Language Matters: Addressing Bias in LLMs*, IAPP Privacy. Security. Risk. Sep. 2024
- Invited Speaker, John Brooks Slaughter Leadership in Engineering DEI Summit. Feb. 2024
- Invited Panelist on *Bias in Generative AI*. QueerInAI Workshop at NeurIPS Dec. 2023
- Guest Lecturer on *Ethics and Power in NLP*, USC CSCI 662 Advanced NLP. Sep. 2023
- Invited Speaker, *Anti-Queer Bias in LLMs*. USC ISI Natural Language Seminar. Jun. 2022
- Guest Lecturer, *Servius: An Object-Oriented Approach*. Sunoikisis Digital Classics. May 2019

Conference Talks/Posters

- Poster Presentation, *GPT is Not an Annotator*. Southern California NLP Symposium. Nov. 2024
- *Roundtable Discussion: Defining and Disrupting Antisemitism*. Association for Jewish Studies. Dec. 2023
- Poster Presentation, *Anti-Queer Bias in LLMs*. CRA-WP Grad Cohort for Women. Apr. 2023
- Poster Presentation, *Anti-Queer Bias in LLMs*. Southern California NLP Symposium. Nov. 2022
- *Automatically Encoding Digital Editions of Latin Texts*. Society for Classical Studies. Jan. 2019
- *Coding And/As Classical Scholarship*, Classical Association of the Midwest and South Conference. Apr. 2018

WORK EXPERIENCE

Epic Systems Corporation — Software Developer Intern

May 2019 – Aug. 2019

- Prototyped a menstrual cycle tracking feature within MyChart for iOS to allow patients to share cycle data with providers
- Designed and implemented server and client-side data structures to save cycle data to the patient's medical record
- Built four complete and interactive user-interface screens and partial prototypes of several others
- Conducted user research, including about 100 internal survey responses and 5 user interviews

PROFESSIONAL SERVICE

- Coordinator, USC ISI Natural Language Seminar. Aug. 2024 – Present
- Conference/Workshop Reviewing: NAACL SRW 2025, EMNLP 2023, ACL 2023, EMNLP 2022 Theme Track.

LEADERSHIP, COMMUNITY SERVICE, AND OUTREACH

Queers in Engineering, Science and Technology (QuEST) — Graduate Representative

Sep. 2020 – May 2022

- Recruit graduate students to QuEST and advocate for their needs in the organization
- Develop workshops on graduate school and fellowship applications and mentor undergraduate members during applications
- 2022 oSTEM Region F Conference organizer: presented graduate application workshop, spoke on Queer in Academia panel, wrote and hosted charity Dungeons & Dragons livestream, raising \$950 for LGBTQ+ community organizations in LA

Teach for Los Angeles – Math Tutor

Aug. 2020 – May 2021

- Meet weekly to provide personalized math tutoring to sixth grade student in low-income school

Alpha Sigma Kappa - Women in Technical Studies — President APR. 2019 – APR. 2020, Vice Pres. DEC. 2017 – DEC. 2018

- As VP, planned and executed nine recruitment events per semester, recruiting 32 new members
- As VP, mentored 9 officers on 5 committees, resulting in successful chapter social and new member education programs
- As President, oversaw 6 executive board members and served as chief risk management officer
- As President, led chapter's transition to virtual operations due to COVID-19, rapidly established new initiatives to maintain sisterhood and encourage academic excellence during the pandemic

Out in Science, Technology, Engineering, and Math – Secretary

Mar. 2017 – Dec. 2019

- Served on founding executive board of first oSTEM chapter in the state of Oklahoma
- Planned and executed about two medium-scale events per month and managed event promotion and member communication

Halliburton Women's Welcome – Program Committee Chair

Aug. 2018, Aug. 2019

- Planned and executed a weeklong program for 80+ incoming female students in engineering
- Organized campus resource fair and inclusive professional dress workshop that received 91% positive participant feedback

Boren Mentoring Initiative – Mentor

Oct. 2018 – May 2019

- Met weekly with a middle school student to work on emotional skills, which teachers observed improving over the year

Girls Learning and Applying Math and Science – Computer Science Session Co-Chair

Oct 2017, Feb. 2018

- Facilitated a craft activity to teach about 60 middle school girls about the basics of ASCII text encoding

HONORS AND AWARDS

National Science Foundation Graduate Research Fellowship
Gallogly College of Engineering Outstanding Senior
Alpha Sigma Kappa National Outstanding Leader
Letzeiser Honor List – Silver Medalist
Regents' Award for Outstanding Juniors
Rita H. Lottinville Prize (5 outstanding sophomores)
Ronald Lehr Phi Beta Kappa Undergraduate Research Award
OU Women in Engineering Outstanding Sophomore

Viterbi Graduate School Fellowship
Outstanding Senior in Computer Science
Outstanding Greek Senior
OU Campus Life Award (40 outstanding upperclassmen)
President's Award for Outstanding Sophomores
OU Women in Engineering Impact in Engineering Award
Tau Beta Pi (National Engineering Honor Society)
Phi Beta Kappa Honor Society