

# Julie Jiang

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I am interested in learning about **people**—how user preferences, social cues, and contextual factors influence and drive user behavior—in online settings such as **social media** and **multiplayer games**. I adopt a variety of deep learning, network analysis, natural language processing, and statistical methods.

## Education

**University of Southern California (USC)** | Los Angeles, CA 2019—2024  
*PhD Candidate in Computer Science*—GPA: 4.00/4.00 (expected)

**Research interests:** computational social science & machine learning

**Advisor:** Dr. Emilio Ferrara

- Qualifying Exam (Committee: Dr. Emilio Ferrara, Dr. Kristina Lerman, Dr. Xiang Ren, Dr. Salman Avestimehr, and Dr. Bistra Dilkina) Sep 2021

**Tufts University** | Medford, MA

*BS in Computer Science and Mathematics*—GPA 3.72/4.00 *magna cum laude* 2015—2019

## Experience

**Research Intern at TikTok/ByteDance** | Virtual, CA Fall 2022

- Applied Machine Learning team
- Analyzed how the hierarchical diversity of ads is related to user engagement

**Research Intern at Snap Research** | Santa Monica, CA Summer 2022

- Advised by Dr. Francesco Barbieri in the Computational Social Science Team
- Reciprocity, homophily, and social network effects of Bitmoji stickers usage on Snapchat (paper under review)

**Research Assistant at USC Information Sciences Institute (ISI)** | Marina del Rey, CA 2021—2022

- **DARPA INCAS-UPSCALE** (PI: Dr. Emilio Ferrara): Universal population segmentation and characterization algorithms for online environments

**Research Intern at Snap Research** | Santa Monica, CA May—Nov 2021

- Advised by Dr. Francesco Barbieri in the Computational Social Science Team
- Analyzed the contextual impact (time, location, and weather) on sentiment expressed in Snapchat stories (paper published in ICWSM 2023)

**Research Assistant at USC Information Sciences Institute (ISI)** | Marina del Rey, CA 2019—2021

- **DARPA TAILOR-Bespoke** (PI: Dr. Kristina Lerman): Learning bespoke interventions for performance optimizations in heterogeneous users

**Software Engineering Intern at Google** | Mountain View, CA Summer 2019

- Adwords API Team

**Research Assistant at Tufts University** | Medford, MA 2018—2019

- Advised by Dr. Li-Ping Liu and Dr. Soha Hassoun
- Developed graph embedding models for biochemical molecular reaction prediction (paper published in Bioinformatics)

- Consumer electronics advanced development division
- Developed deep neural network to separate noise from audio signals

## Publications \* equal contribution

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- 2023 **Julie Jiang**, Xiang Ren, and Emilio Ferrara. **Retweet-BERT: Characterizing Echo Chambers by Leveraging Language Features and Information Diffusion in Social Media**. To appear at *The International AAAI Conference on Web and Social Media (ICWSM '23)*. [Preprint](#)
- 2022 Alex Bisberg\*, **Julie Jiang\***, Yilei Zeng, Emily Chen, and Emilio Ferrara. **The Gift That Keeps on Giving: Generosity is Contagious in Multiplayer Online Games**. *Proceedings of the ACM on Human-Computer Interaction (PACM HCI)*, 2022, 6, CSCW2 (CSCW '22). [Paper](#)
- 2022 **Julie Jiang**, Nils Murrugarra-Llerena, Maarten W. Bos, Yozen Liu, Neil Shah, Leonardo Neves, and ICWSM Francesco Barbieri. **Sunshine with a Chance of Smiles: Weather Impacts Expressed Sentiment on Social Media**. *The International AAAI Conference on Web and Social Media (ICWSM '22)*. [Paper](#)
- 2022 Emily Chen\*, **Julie Jiang\***, Ho-Chun Herbert Chang, Goran Murić, and Emilio Ferrara. **Charting the Information and Misinformation Landscape to Characterize Misinfodemics on Social Media: COVID-19 Infodemiology Study at a Planetary Scale**. *JMIR Infodemiology* 2022; 2(1):e32378. [Paper](#)
- 2021 **Julie Jiang**, Xiang Ren, and Emilio Ferrara. **Social Media Polarization and Echo Chambers in the Context of COVID-19: Case Study**. *JMIRx Med* 2021; 2(3):e29570. [Paper](#)
- 2021 Yuze He, Christopher Tran, **Julie Jiang**, Keith Burghadt, Emilio Ferrara, Elena Zheleva, and Kristina FDG Lerman. **Heterogeneous Effects of Software Patches in a Multiplayer Online Battle Arena Game**. *The International Conference on the Foundations of Digital Games (FDG '21)*. [Paper](#)
- 2021 **Julie Jiang**, Danaja Maldeniya, Kristina Lerman, and Emilio Ferrara. **The Wide, the Deep, and the CSCW Maverick: Types of Players in Team-based Online Games**. *Proceedings of the ACM on Human-Computer Interaction (PACM HCI)*, 2021, 5, CSCW1 (CSCW '21). [Paper](#) [Video](#)
- 2020 **Julie Jiang**, Kristina Lerman, and Emilio Ferrara. **Individualized Context-Aware Embeddings for ICDMW Online Games Predictions**. *20th IEEE International Conference on Data Mining (ICDM '20), Workshop on High Dimensional Data Mining*. [Paper](#) [arXiv](#)
- 2020 **Julie Jiang**, Emily Chen, Shen Yan, Kristina Lerman, and Emilio Ferrara. **Political Polarization HBET Drives Online Conversations About COVID-19 in the United States**. *Human Behavior and Emerging Technologies* 2(3), 200—211, 2020. [Paper](#) [cited > 100 times]
- 2020 **Julie Jiang**, Li-Ping Liu, and Soha Hassoun. **Learning Graph Representations of Biochemical Networks and Its Application to Enzymatic Link Prediction**. *Bioinformatics* 37(6), 793—799, 2021. [Paper](#)

## Preprints

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- 2022 **Julie Jiang**, Mireia Triguero Roura, Maarten W. Bos, Ron Dotsch, Yozen Liu, Vítor Silva, and Francesco Barbieri. **Reciprocity, Homophily, and Social Network Effects in Pictorial**

**Communication: A Case Study of Bitmoji Stickers.** [Preprint](#)

- 2022 [Julie Jiang](#), Emily Chen, Luca Luceri, Goran Murić, Francesco Pierri, Ho-Chun Herbert Chang, and Emilio Ferrara. **What are Your Pronouns? Examining Gender Pronoun Usage on Twitter.** [Preprint](#)
- 2022 [Julie Jiang](#), Jesse Thomason, Francesco Barbieri, and Emilio Ferrara. **Geolocated Social Media Posts are Happier: Understanding the Characteristics of Check-in Posts on Twitter.** [Preprint](#)
- 2022 [Julie Jiang](#), Kristina Lerman, and Emilio Ferrara. **Zero-Shot Meta-Learning for Small-Scale Data from Human Subjects.** [Preprint](#)

## Presentations

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- 2022 [Julie Jiang](#), Nils Murrugarra-Llerena, Maarten W. Bos, Yozen Liu, Neil Shah, Leonardo Neves, and Francesco Barbieri. **Sunshine with a Chance of Smiles: Weather Impacts Expressed Sentiment on Social Media.** *2022 International Society for Research on Emotion (ISRE)*, oral presentation.
- 2020 Emily Chen\*, [Julie Jiang\\*](#), Fred Morstatter, Kristina Lerman, and Emilio Ferrara. **Ageism in Traffic Policing.** *6th International Conference on Computational Social Science (IC2S2)*, oral presentation. [Extended Abstract](#)
- 2020 [Julie Jiang](#), Li-Ping Liu, and Soha Hassoun. **Enzymatic Link Prediction for Biochemical Route Synthesis.** *2020 MIT AI Powered Drug Discovery and Manufacturing (AIDM)*. [Poster](#)
- 2019 [Julie Jiang](#), Li-Ping Liu, and Soha Hassoun. **Predicting Reactions for Biochemical Networks Using Graph Embeddings.** *2019 Machine Learning in Computational Biology (MLCB)*, co-located with NeurIPS '19. [Poster](#)

## Teaching

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### USC

Teaching Assistant, **CSCI591** CS Research Colloquium Fall 2022 & Spring 2023

### Tufts University

Teaching Fellow (Head TA), <b>COMP11</b> Intro to Computer Science	Spring 2018, Fall 2018, & Spring 2019
Teaching Assistant, <b>COMP105</b> Programming Languages	Spring 2018
Teaching Assistant, <b>COMP15</b> Data Structures	Spring 2017 & Fall 2017
Grader, <b>MATH32</b> Calculus I and <b>MATH34</b> Calculus II	Spring 2017 & Fall 2017
Tutor, <b>MATH</b> Calculus	Fall 2016 & Spring 2017

## Awards

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Snap Research Fellowship (\$10K)	2022
USC Graduate School nomination for the Google PhD Fellowship	2021
USC Viterbi nomination for the Microsoft PhD Fellowship	2021
USC ISI Distinguished Graduate Student Research Fellowship (\$5K)	2019–2020
USC Viterbi Travel Grant for Graduate Engineering Preview Day	2019
Tufts Tisch Summer Scholars Fellowship	2019
Tufts University Dean's List (7/8 semesters)	2015–2019

## Professional Service

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### Reviewing

The ACM Web Conference (**TheWebConf**/WWW): 2020, 2021, 2023 (PC)  
The International AAAI Conference on Web and Social Media (**ICWSM**): 2022, 2023  
The ACM Conference on Human Factors in Computing Systems (**CHI**): 2023  
The ACM Conference on Computer-Supported Cooperative Work and Social Computing (**CSCW**): 2023  
The ACM Web Science Conference (**WebSci**): 2020, 2021, 2022, 2023  
International Journal of Communication (**IJoC**): 2022  
Conference for Truth and Trust Online (**TTO**): 2021  
International Conference on Complex Networks (**CompleNet**): 2020

### Admissions

USC Viterbi CS PhD Admissions: 2021, 2022  
Tufts Admissions Network: 2020, 2022

## Media Coverage

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2021 Segregated communities of polarized Twitter users are shaping online conversations about COVID-19. *PsyPost.org*. [Link](#)