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The Pennsylvania State University  
University Park, PA, 16802

## Jie Cai

My research lives at the intersection of computer science, social science, and science and technology studies. My primary focus areas are human-computer interaction (HCI) and computer-supported cooperative work (CSCW), with interests in interactive media, marginalization, accessibility, harassment, and content moderation. I also have a broad interest in digital technology. I applied qualitative (e.g., interview, observation) and quantitative (e.g., survey) methods with sociotechnical theories to understand user mental models and behavioral patterns and provide design interventions to improve user experience.

## Appointment

2022-present

### Assistant Research Professor

College of Information Sciences and Technology, The Pennsylvania State University, PA, USA  
Mentor: John M. Carroll

## Education

2017-2022

### Ph.D. in Information Systems, Human-Centered Computing

Ying Wu College of Computing, New Jersey Institute of Technology, NJ, USA  
Dissertation: *Understanding the Voluntary Moderation Practices in Live Streaming Communities*  
Committee: Donghee Y. Wohn (advisor), Starr Roxanne Hiltz, Aritra Dasgupta, Cody Buntain, David Wang, Bryan Dosono

2014-2016

### M.S. in Marketing Research

Hofstra University, NY, USA  
Thesis: *The Effect of Color and Dispersion of Review Ratings on Consumers' Purchase Decisions*  
Advisor: Veronika Ilyuk-Morace

2010-2014

### B.A. in Marketing/Organizational Leadership (dual degree)

Shenyang Normal University/Fort Hays State University, Shenyang, China

## Publications & Presentations ([PDF](#), [Google Scholar](#), [ACM Profile](#))

### JOURNAL PAPERS

- J5 Qijia Chen, **Jie Cai**, and Giulio Jacucci. (2024). "People Are Way Too Obsessed With Rank": Trust System in Social Virtual Reality. *Computer Supported Cooperative Work (CSCW)*.
- J4 **Jie Cai**, Sagnik Chowdhury, Hongyang Zhou, and Donghee Yvette Wohn. (2023). Hate Raids on Twitch: Understanding Real-Time Human-Bot Coordinated Attacks in Live Streaming Communities. *In Proceedings of the ACM on Human-Computer Interaction - CSCW'23*.

- J<sub>3</sub> Christine Cook, **Jie Cai**, and Donghee Y. Wohn. (2022) Awe Versus Aww: The Effectiveness of Two Kinds of Positive Emotional Stimulation on Stress Reduction for Online Content Moderators. *In Proceedings of the ACM on Human-Computer Interaction - CSCW'22*.
- J<sub>2</sub> **Jie Cai** and Donghee Y. Wohn. (2021). After Violation But Before Sanction: Understanding Volunteer Moderators' Profiling Processes Toward Violators in Live Streaming Communities. *In Proceedings of the ACM on Human-Computer Interaction - CSCW'21*.
- J<sub>1</sub> **Jie Cai** and Donghee Y. Wohn. (2019). Categorizing Live Streaming Moderation Tools: An Analysis of Twitch. *International Journal of Interactive Communication Systems and Technologies - IJICST*.

#### CONFERENCE PROCEEDINGS

- C<sub>11</sub> **Jie Cai**, Ya-Fang Lin, He Zhang, and John M. Carroll. (2024). Third-Party Developers and Tool Development For Community Management on Live Streaming Platform Twitch. *In Proceedings of the ACM CHI Conference on Human Factors in Computing Systems - CHI'24*.
- C<sub>10</sub> Yao Lyu, **Jie Cai**, Anisa Callis, Kelley Cotter, and John M. Carroll. (2024). A Study of Blind TikTokers' Content Moderation Experiences. *In Proceedings of the ACM CHI Conference on Human Factors in Computing Systems - CHI'24*.
- C<sub>9</sub> **Jie Cai** and Donghee Y. Wohn. (2023). Understanding Moderator Conflict and Conflict Management Strategies with Streamers in Live Streaming Communities. *In Proceedings of the ACM CHI Conference on Human Factors in Computing Systems - CHI'23*. [Best Paper Honorable Mention Award]
- C<sub>8</sub> **Jie Cai** and Donghee Y. Wohn. (2022). Coordination and Collaboration: How do Volunteer Moderators Work as a Team in Live Streaming Communities? *In Proceedings of the ACM CHI Conference on Human Factors in Computing Systems - CHI'22*.
- C<sub>7</sub> Sahaj Vaidya, **Jie Cai**, Soumyadeep Basu, Azadeh Naderi, Donghee Y. Wohn, and Aritra Dasgupta. (2021). Conceptualizing Visual Analytic Interventions for Content Moderation. *In Proceedings of the IEEE Visualization Conference - VIS'21*.
- C<sub>6</sub> **Jie Cai**, Sarah J Ryu, Donghee Y. Wohn, and Hyejin Hannah Kum-Biocca. (2021). Teleworker's Perception of Technology Use for Collaborative and Social During the COVID-19 Pandemic. *In Proceedings of the International BCS Human-Computer Interaction Conference - BritishHCI'21*.
- C<sub>5</sub> **Jie Cai** and Donghee Y. Wohn. (2021). Moderation Visibility: Mapping the Strategies of Volunteer Moderators in Live Streaming Micro Communities. *In Proceedings of the 2021 ACM International Conference on Interactive Media Experiences - IMX'21*.
- C<sub>4</sub> Jirassaya Uttarapong, **Jie Cai**, and Donghee Y. Wohn. (2021). Harassment Experiences of Women and LGBTQ Live Streamers and How They Handled Negativity. *In Proceedings of the 2021 ACM International Conference on Interactive Media Experiences - IMX'21*.
- C<sub>3</sub> **Jie Cai** and Donghee Y. Wohn. (2019). Live Streaming Commerce: Uses and Gratifications Approach to Understanding Consumers' Motivations. *In Proceedings of the 52nd Hawaii International Conference on System Sciences - HICSS'19*.
- C<sub>2</sub> **Jie Cai**, Donghee Y. Wohn, and Guo Freeman. (2019). Who Purchases and Why? Explaining Motivations for In-game Purchasing in the Online Survival Game Fortnite. *In Proceedings of Computer-Human Interaction in Play - CHI PLAY'19*.

**Jie Cai**, Ankit Mittal, Dhanush Sureshababu, and Donghee Y. Wohn. (2018). Utilitarian and Hedonic Motivations for Live Streaming Shopping. In *Proceedings of the 2018 ACM International Conference on Interactive Experiences for TV and Online Video - TVX'18*.

#### EXTENDED ABSTRACT & LATE BREAKING WORK

- P6 **Jie Cai**, Aashka Patel, Azadeh Naderi, and Donghee Yvette Wohn. (2023). Content Moderation Justice and Fairness on Social Media: Comparisons Across Different Contexts and Platforms. In *Extended Abstracts of the 2024 CHI Conference on Human Factors in Computing Systems - CHI EA'24*.
- P5 Yao Lyu, He Zhang, Shuo Niu, **Jie Cai**. (2024). A Preliminary Exploration of YouTubers' Use of Generative-AI in Content Creation. In *Extended Abstracts of the 2024 CHI Conference on Human Factors in Computing Systems - CHI EA'24*.
- P4 Na Li, **Jie Cai**, and Donghee Yvette Wohn. (2023). Ignoring As a Moderation Strategy for Volunteer Moderators on Twitch. In *Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems - CHI EA'23*.
- P3 **Jie Cai**, Ruiqi Shen, Starr Roxanne Hiltz. (2021). Understanding Choice of Social Music Systems in China: A Study of NetEase Cloud Music. In *Adjunct Proceedings of the ACM International Conference on Mobile Human-Computer Interaction - MobileHCI'21*.
- P2 **Jie Cai**, Cameron Guanlao, and Donghee Y. Wohn. (2021). Understanding Rules in Live Streaming Micro Communities on Twitch. In *WiP Proceedings of the 2021 ACM International Conference on Interactive Media Experiences - IMX'21*.
- P1 **Jie Cai** and Donghee Y. Wohn. (2019). What are Effective Strategies of Handling Harassment on Twitch? Users' Perspectives. In *Companion of the 2019 ACM Conference on Computer Supported Cooperative Work and Social Computing - CSCW'19*.

#### ORGANIZED WORKSHOP

- 2024 Yiqing Hua, Shuo Niu, **Jie Cai**, Lydia B Chilton, Hendrik Heuer, Donghee Yvette Wohn. (2024). Generative AI in User-Generated Content. *Extended Abstracts of the ACM CHI Conference on Human Factors in Computing Systems - CHI EA'24*.
- 2023 Shuo Niu, Zhicong Lu, Amy Zhang, **Jie Cai**, Carla F. Griggio, and Hendrik Heuer. (2023). Building Credibility, Trust, and Safety on Video-Sharing Platforms. *Extended Abstracts of the ACM CHI Conference on Human Factors in Computing Systems - CHI EA'23*.

#### PRESENTATIONS & WORKSHOPS

- 2022 Rae Jereza, **Jie Cai**, and Aashka Patel. (2022). Distress and Disempowerment: How Organizational Factors Limit Commercial Content Moderators' Agency. *Extended Abstract presented at the 12th International Conference on Social Media & Society - #SMSociety'22*.
- 2019 **Jie Cai** and Donghee Y. Wohn. (2019). Ignoring As a Strategy: Why Moderators Use It And How It Influences Viewers' Behaviors. *Workshop paper presented at the 2019 ACM Conference on Computer Supported Cooperative Work and Social Computing - CSCW'19*.
- Jie Cai** and Donghee Y. Wohn. (2019). Live Streaming Shopping. *Presentation at NJIT Dana Knox Showcase*.

2016 **Jie Cai**, Danlin Liang, Zhibin Cen, Boonghee Yoo. (2016). An Exploratory Model of Consumers' Perceived Value of Business College Education. *Student Paper presented at the 45th Annual Meeting of the Western Decision Science Institute - WDSI'16*.

#### DOCTORAL CONSORTIUM

2021 **Jie Cai**. (2021). Understanding the Voluntary Moderation Practices in Live Streaming Communities. *Presentation at the 2021 ACM International Conference on Interactive Media Experiences - IMX'21*.

2019 **Jie Cai**. (2019). The Motivation of Live Virtual Reality Shopping and Design Principles. *Presentation at the 52nd Hawaii International Conference on System Sciences - HICSS'19*.

#### FELLOWSHIPS

2021 summer **CSST Summer Institute**, (Online).  
*Presentation at the Consortium for the Science of Sociotechnical Systems - CSST'21*.

#### INVITED TALKS

2023.11 I give a virtual Talk about harassment and content moderation to **Twitich** community health team.

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## Working Experience

2016.9-  
2017.8 **Merchandising Assistant**, [VIP.com \(唯品会\)](#), New York

- Conducted sales report analysis, market trends, and brand research and identified trendy brands for business development managers.
- Accomplished brand introduction to the official website in China in food, home, beauty, and maternity categories from the major platforms - Costco and BJ's Wholesale.

2016.1-  
2016.5 **Intern Assistant Data Analyst**, [Tal Depot.com](#), New York

- Analyzed monthly shipping performance by getting data from the Aftership platform, using Excel (pivot table and data analysis), and writing marketing reports.
  - Researched online fraud transactions through the Signify platform and tracked suspicious credit transactions.
  - Searched UPC for all products, matched product information for eBay, and used the Magento platform to post and manage products on the website.
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## Teaching and Research Experience

2022-present **Lab/Research Director**

- Co-lead the Collaboration and Innovation Lab at Penn State with John M. Carroll.
- Coordinate projects and supervise PhDs, graduates, and undergraduates.
- Write grant proposals.

- 2023, 2024  
Spring **Instructor**
- Teaching HCDD 364W: *Methods for Studying Users* at Penn State.
- 2019, 2021  
Fall **Instructor**
- Independently develop course materials and teach an HCI course for 25-30 students: IS448: *Usability and Measuring UX*.
  - Update the syllabus based on students' feedback and redesign the course to ask students to read and present the most recent research papers in HCI domains (e.g., CHI, CSCW, CMC).
- 2020-2021 **Research Assistant**
- Work on the NSF-funded project: Collaborative Research: Augmenting Social Media Content Moderation with the PI and my advisor, Dr. Donghee Y. Wohn.
  - Lead and conduct exploratory studies with content moderators with observation and interview methods.
  - Collaborate with the NJIT data visualization team to explore a visualization intervention for content moderation.
  - Collaborate with UCLA and UMSI scholars to organize workshops targeting top HCI conferences like ACM SIGCHI.
- 2017-2022 **Teaching Assistant**
- Work with Dr. Julie Ancis on course development and grading for a management course: HRM 601-Organizational Behavior.
  - Work with Dr. Donghee Y. Wohn to organize class discussions and grade assignments for two HCI courses: IS448-Usability and Measuring UX and IS375-Discovering User Needs for UX.
  - Work with Dr. Arthur H. Hendela to grade assignments and support Q&A for two IS courses: IS117-Introduction to Website Development and IS265-Introduction to Information System.
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## Student Advising and Mentoring

### PENN STATE UNIVERSITY

- 2023-present **Sydney Graver**, Undergraduate in Computer Science
- 2023-present **Fiona Rubino**, Undergraduate in Data Science
- 2023-present **Ya-Fang, Ling**, PhD in Human-Computer Interaction
- 2023-present **Albert Zhang**, PhD in Human-Computer Interaction
- 2022-present **Na Li**, PhD in Human-Computer Interaction
- 2022-present **Jiyeon Kim**, PhD in Human-Computer Interaction
- 2022-present **Yao Lyu**, PhD in Human-Computer Interaction
- 2022-present **Hangyang Zhou**, Masters, Cornell Tech
- 2023-present **Jirassaya Uttarapong**, Research Associate, NJIT

### NEW JERSEY INSTITUTE OF TECHNOLOGY

- 2022 **Sagnik Chowdhury**, Undergraduate in Cyberpsychology
- 2020-2022 **Aashka Patel**, Undergraduate in Computer Science
- 2020-2021 **Sarah Ryu**, Undergraduate in Human-Computer Interaction

2019-2020	<b>Andrew Suarez</b> , Undergraduate in Information Technology
2019-2020	<b>Aaron Samuel</b> , Undergraduate in Computer Science
2020	<b>Abdelmalek Benaissa</b> , Undergraduate
2019	<b>Jessy Martinez</b> , Undergraduate

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## Services

### ORGANIZING COMMITTEES

2023-24	Proceeding/Publication Co-Chair	ACM CSCW'24
2022-23	Assistant to the Technical Program Chairs	ACM CHI'23
2021-22	Proceeding Chair	ACM IMX'21

### PROGRAM COMMITTEES

2024	CHI Full Paper (Associate Chair)
2023	CSCW Poster (Associate Chair)
	CHI PLAY Full Paper (Associate Chair)
	CHI LBW (Associate Chair)
2022	CSCW Poster (Associate Chair)

### JOURNAL REVIEWER

2023	New Media & Society
	Information & Management
	Computers in Human Behavior
	International Journal of Human-Computer Interaction
2022	Media Psychology
	Journal of Online Trust and Safety
2021	CSCW: Journal of Collaborative Computing and Work Practices
2020	Cyberpsychology: Journal of Psychosocial Research on Cyberspace
	Telematics and Informatics

### CONFERENCE REVIEWER

CHI	2019-present
CSCW	2018-present
ICA	2024
CHI Late Breaking Work	2020, 2021, 2023
IUI Poster	2023
CSCW Poster	2022
IMX	2021
CHI PLAY	2020, 2022, 2023
ICWSM	2020
PACIS	2020

HICSS	2019, 2023, 2024
MobileHCI	2018

#### STUDENT & CONFERENCE ACTIVITIES

2022	Student Volunteer	ACM IUI' 22
2020	Student Volunteer	ACM CSCW' 20
2019	Student Volunteer	ACM CSCW' 19
2018-2019	Graduate Student Association (GSA) Treasurer	NJIT

#### Awards & Honors

2023	Best Paper Honorable Mention Award	ACM CHI' 23
2022	Excellence in Teaching by a Teaching Assistant Award	NJIT
2021	Special Recognition for Outstanding Reviews	ACM CHI' 21, 23
2019	Lisa A. Pierce Student Leader of the Year Award	NJIT
2019	<b>\$1300</b> - Graduate Student Association (GSA) Travel Grant	NJIT
2018	<b>\$800</b> - Graduate Student Association (GSA) Travel Grant	NJIT

#### Affiliations

2019-present	ACM Professional Membership	ACM
2021-present	ACM SIGCHI Membership	ACM
2022-present	Social Interaction Lab	NJIT
2022-present	Center for Socially Responsible Artificial Intelligence	Penn State

#### Grants

##### GRANTS PARTICIPATED

2018-2021	NSF, CHS: <i>EAGER: Handling Online Risks and Creating Safe Spaces: Content Moderation in Live Streaming Micro Communities</i> . PI: Donghee Yvette Wohn; Amount: \$ 230,055.00
2021-2022	NSF, FW-HTF-RM: <i>Collaborative Research: Augmenting Social Media Content Moderation</i> . PI: Donghee Yvette Wohn, Co-PI: Elizabeth Petrick and Aritra Dasgupta; Amount: \$ 849,024.00

##### GRANTS UNDER REVISION

2023-2024	NSF, HCC: Small: <i>Third-Party Developer's Perspective of Content Moderation Tool Design in Interactive Media</i> . PI: <b>Jie Cai</b> , Co-PI: John, M. Carroll; Requested Amount: \$ 272,514
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