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Jie Cai

My research lives at the intersection of computer science, social science, and science and technology studies. My primary area of focus is 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 both qualitative (e.g., interview, observation) and quantitative (e.g., survey) methods with sociotechnical theories to understand user mental models and behavioral patterns and to 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 (PDFs)

JOURNAL PAPERS

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*.

J₃

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*.

J₂ **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*.

J₁ **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*, 9(2), 36-50.

CONFERENCE PROCEEDINGS

C₁₁ **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*.

C₁₀ Yao Lyu, **Jie Cai**, Anisa Callis, Kelley Cotter, and John M. Carroll. (2024). "If I'd Like to Comment Back, It's Just Kind of Entertaining Them": A Study of Blind TikTokers' Content Moderation Experiences. *In Proceedings of the ACM CHI Conference on Human Factors in Computing Systems - CHI'24*.

C₉ **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]

C₈ **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*.

C₇ 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*.

C₆ **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*.

C₅ **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*.

C₄ 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*.

C₃ **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*.

C₂ **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*.

C₁

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 & POSTER

- 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 **Twitch** community health team.

Working Experience

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

- Conducted sales report analysis and 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 and matched product information for eBay and used Magento platform to post and manage products on the website.
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Teaching and Research Experience

2023, 2024 **Instructor**
Spring

- Teaching HCDD 364W: *Methods for Studying Users* at Penn State.

2019, 2021 **Instructor**
Fall

- 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 re-design 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 discussion 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.

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

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

Services

ORGANIZING COMMITTEES

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

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	<i>IUI'22</i>
2020	Student Volunteer	<i>CSCW'20</i>
2019	Student Volunteer	<i>CSCW'19</i>
2018-2019	Graduate Student Association (GSA) Treasurer	<i>NJIT</i>

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	\$1300 - Graduate Student Association (GSA) Travel Grant	NJIT
2018	\$800 - Graduate Student Association (GSA) Travel Grant	NJIT

Grants

GRANTS PARTICIPATED

2018-2021	NSF, CHS: EAGER: <i>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 REVIEW

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