

HANCHENG CAO

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EDUCATION

Stanford University

Stanford, CA

Ph.D. in Computer Science, minor in Management Science & Engineering

Sep 2018 – Jun 2024 (Expected)

- Research Interest: data science, human computer interaction, human AI collaboration, future of work
- Advisors: [Prof. Dan McFarland](#), [Prof. Michael Bernstein](#)
- Dissertation Committee Members: [Prof. Dan Jurafsky](#), [Prof. James Zou](#), [Prof. Diyi Yang](#)
- Stanford Interdisciplinary Graduate Fellow

Tsinghua University

Beijing, China

B.Eng. in Electronic Engineering (with honors)

Aug 2014 – Jun 2018

- Selected to Spark Scientific and Technological Innovation Fellowship (top 1.5% of 3560 Tsinghua students for outstanding research performance)

University of Maryland, College Park

College Park, MD, USA

Exchange Student

Aug 2016 – Dec 2016

- Research Assistant to [Prof. Hanan Samet](#), University Distinguished Professor

Massachusetts Institute of Technology

Cambridge, MA, USA

Visiting Student at MIT Media Lab, Human Dynamics Group

Jun 2017 – Sep 2017

- Research Assistant to [Prof. Alex ‘Sandy’ Pentland](#) and [Prof. Xiaowen Dong](#)

PROFESSIONAL EXPERIENCE

Allen Institute for Artificial Intelligence

Seattle, WA, USA

Research Intern, Semantic Scholar/AllenNLP team

Jun 2022 – Dec 2022

Mentors: [Lucy Lu Wang](#), [Kyle Lo](#), [Jesse Dodge](#)

Microsoft

Redmond, WA, USA

Research Intern, E & D Office of Applied Research & Microsoft Research

Mar 2022 – Jun 2022

Mentors: [Longqi Yang](#), [Mengting Wan](#)

Microsoft

New York City, NY, USA

Research Intern, Computational Social Science Group, Microsoft Research

Jun 2021 – Sep 2021

Mentors: [Jake Hofman](#), [Dan Goldstein](#)

Microsoft

Redmond, WA, USA

Research Intern, E & D Office of Applied Research & Microsoft Research

Jun 2020 – Sep 2020

Mentors: [Longqi Yang](#), Chia-Jung Lee, [Jaime Teevan](#), [Brent Hecht](#), [Shamsi Iqbal](#), [Mary Czerwinski](#)

Tencent Inc.

Beijing, China

Research Intern, Tencent Map Service, Mobile Internet Group

July 2018 – Sep 2018

PUBLICATIONS

1. Weixin Liang*, Yuhui Zhang*, **Hancheng Cao***, Binglu Wang, Daisy Ding, Kailas Vodrahalli, Siyu He, Daniel Smith, Yian Yin, Daniel McFarland, James Zou. Can large language models (LLM) provide useful feedback on research papers? A Large-scale Empirical Analysis. *Revise & Resubmit at Nature*. [\[pdf\]](#)
2. **Hancheng Cao**, Yujie Lu, Yuting Deng, Daniel McFarland, Michael Bernstein. Breaking out of the Ivory Tower: A Large-scale Analysis of Patent Citations to HCI Research. In ACM CHI Conference on Human Factors in Computing Systems (CHI 2023). Full paper. **Best Paper Award** [\[pdf\]](#)
3. Mengjie Cheng, Daniel Smith, Xiang Ren, **Hancheng Cao**, Sanne Smith, Daniel McFarland. How New Ideas Diffuse in Science. In *American Sociological Review (ASR)*. [\[pdf\]](#)

4. Mina Lee, Megha Srivastava, Amelia Hardy, Esin Durmus, Ashwin Paranjape, John Thickstun, Ines Gerard-Ursin, Faisal Ladhak, Frieda Rong, Rose Wang, Lisa Li, Minae Kwon, Joon Sung Park, **Hancheng Cao**, Tony Lee, Rishi Bommasani, Michael Bernstein, Percy Liang. Evaluating the Interactability of Language Models. In Transactions on Machine Learning Research (TMLR). [\[pdf\]](#)
5. Zhilong Chen, Jinghua Piao, Xiaochong Lan, **Hancheng Cao**, Cheng Gao, Zhicong Lu, Yong Li, Practitioners Versus Users: A Value-Sensitive Evaluation of Current Industrial Recommender System Design. . In 2022 ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2022). Full paper. [\[pdf\]](#)
6. Zhilong Chen*, **Hancheng Cao***, Xiaochong Lan, Zhicong Lu, Yong Li, Beyond Virtual Bazaar: How Social Commerce Promotes Inclusivity for the Traditionally Underserved Community in Chinese Developing Regions. In ACM CHI Conference on Human Factors in Computing Systems (CHI 2022). Full paper. [\[pdf\]](#)
7. **Hancheng Cao**, CJ Lee, Shamsi Iqbal, Mary Czerwinski, Priscilla Wong, Sean Rintel, Brent Hecht, Jaime Teevan, Longqi Yang, Large Scale Analysis of Multitasking Behavior During Remote Meetings. In ACM CHI Conference on Human Factors in Computing Systems (CHI 2021). Full paper. **Best Paper Honorable Mention Award** [\[pdf\]](#)
8. **Hancheng Cao***, Zhilong Chen*, Yuting Deng, Xuan Gao, Jinghua Piao, Fengli Xu, Yu Zhang, Yong Li, Learning from Home: A Mixed-Methods Analysis of Live Streaming Based Remote Education Experience in Chine Colleges during the COVID-19 Pandemic. In ACM CHI Conference on Human Factors in Computing Systems (CHI 2021). Full paper. [\[pdf\]](#)
9. **Hancheng Cao***, Zhilong Chen*, Mengjie Cheng, Shuling Zhao, Tao Wang, Yong Li. You Recommend, I Buy: How and Why People Engage in Instant Messaging Based Social Commerce. In 2021 ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2021). Full paper. [\[pdf\]](#)
10. Guozhen Zhang*, Yong Li*, Yuan Yuan*, Fengli Xu, **Hancheng Cao**, Yujian Xu, Depeng Jin. Community Value Prediction in Social E-Commerce. In 2021 ACM Web Conference (WWW 2021). Long paper. [\[pdf\]](#)
11. Yuan Yuan, Fengli Xu, **Hancheng Cao**, Guozhen Zhang, Yong Li, Depeng Jin. Persuade to Click: Modeling Context-aware Persuasion in online Product Recommendation Text. In IEEE Transactions on Knowledge and Data Engineering (TKDE). [\[pdf\]](#)
12. Yali Fan, Zhen Tu, Tong Li, **Hancheng Cao**, Tong Xia, Yong Li, Xiang Chen, Lianglun Zhang, Understanding the Long-term Dynamics of Mobile App Usage Context via Graph Embedding, in IEEE Transactions on Knowledge and Data Engineering (TKDE). [\[pdf\]](#)
13. Huandong Wang, Yong Li, Junjie Lin, **Hancheng Cao**, Depeng Jin. Context-Aware Semantic Annotation of Mobility Records. In ACM Transactions on Knowledge Discovery from Data (TKDD). [\[pdf\]](#)
14. **Hancheng Cao**, Victor Chen, Vivian Yang, Yu Jin Lee, Lydia Stone, Mark Whiting, Michael Bernstein. My Teams Will Go On: Differentiating High and Low Viability Teams through Team Interaction. In 2020 ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2020). Full paper. **Best Paper Honorable Mention Award.** [\[pdf\]](#)
15. Zhilong Chen, **Hancheng Cao**, Mengjie Cheng, Fengli Xu, Tao Wang, Yong Li. Understanding the Role of Intermediaries in Online Social E-commerces: An Exploratory Study of Beidian. In 2020 ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2020). Full paper. [\[pdf\]](#)
16. **Hancheng Cao***, Mengjie Cheng*, Zhepeng Cen*, Xiang Ren, Daniel McFarland. Will This Idea Step Beyond Academia?: Understanding and Predicting Knowledge Transfer from Research to Practice. In 2020 Conference on Empirical Methods in Natural Language Processing Findings (EMNLP 2020 Findings). [\[pdf\]](#)
17. Zongyu Lin, Shiqing Lyu, **Hancheng Cao**, Fengli Xu, Pan Hui, Hanan Samet, Yong Li. HealthWalks: Sensing Fine-grained Individual Health Condition via Mobility Data. In 2021 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2021). Full paper. [\[pdf\]](#)
18. Zhilong Chen, **Hancheng Cao**, Huandong Wang, Fengli Xu, Yong Li, Vassilis Kostakos. Will You Come Back?: Understanding Characteristics Leading to Urban Revisitation. In 2020 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2020). Full paper. [\[pdf\]](#)

19. **Hancheng Cao***, Zhilong Chen*, Fengli Xu, Yong Li, Tao Wang. When Your Friends Become Sellers: An Empirical Study of Social Commerce Site Beidian. In the 14th International AAAI Conference on Web and Social Media (ICWSM 2020). Full paper. [\[pdf\]](#)
20. Tong Li, Mingyang Zhang, **Hancheng Cao**, Yong Li, Sasu Tarkoma, Pan Hui. “What Apps Did You Use?”: Understanding the Long-term Evolution of Mobile App Usage. In 2020 ACM Web Conference (WWW 2020). Long paper. [\[pdf\]](#)
21. Tu Zhen, **Hancheng Cao**, Eemil Lagerspetz, Huber Flores, Sasu Tarkoma, Petteri Nurmi, Yong Li. Demographics of mobile app usage: Long-term analysis of mobile app usage. In Springer Transactions on Pervasive Computing and Interaction (TPCI). [\[pdf\]](#)
22. **Hancheng Cao**, Zhilong Chen, Fengli Xu, Yong Li, Vassilis Kostakos. Revisitation in Urban Space vs. Online: A Comparison across POIs, websites, and Smartphone Apps. In 2019 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2019). Full paper. [\[pdf\]](#)
23. **Hancheng Cao**, Jie Feng, Yong Li, Vassilis Kostakos. Uniqueness in the City: Urban Morphology and Location Privacy. In 2018 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2018). Full paper. [\[pdf\]](#)
24. **Hancheng Cao**, Fengli Xu, Jagan Sankaranarayanan, Yong Li, Hanan Samet. Habit2vec: Trajectory Semantic Embedding for Living Pattern Recognition in Population. In IEEE Transactions on Mobile Computing (TMC). [\[pdf\]](#)
25. **Hancheng Cao**, Jagan Sankaranarayanan, Jie Feng, Yong Li, Hanan Samet. Understanding Metropolitan Crowd Mobility via Mobile Cellular Accessing Data. In ACM Transactions on Spatial Algorithms and Systems (TSAS). [\[pdf\]](#)
26. Ming Zeng, **Hancheng Cao**, Min Chen, Yong Li. User Behavior Modeling, Recommendations, and Purchase Prediction during Online Shopping Festivals. In Springer Electronic Markets (EM). [\[pdf\]](#)
27. Hongzhi Shi, **Hancheng Cao**, Xiangxin Zhou, Yong Li, Vassilis Kostakos, Funing Sun, Fanchao Meng, Chao Zhang. Semantics-Aware Hidden Markov Model for Human Mobility. In 2019 SIAM International Conference on Data Mining (SDM 2019). Long paper. [\[pdf\]](#)
28. Hongzhi Shi, Yong Li, **Hancheng Cao**, Xiangxin Zhou, Vassilis Kostakos, Chao Zhang. Semantics-Aware Hidden Markov Model for Human Mobility. In IEEE Transactions on Knowledge and Data Engineering (TKDE). Extended version of SDM 2019 paper. [\[pdf\]](#)
29. Fengli Xu, Tong Xia, **Hancheng Cao**, Yong Li, Funing Sun, Fanchao Meng. Detecting Popular Temporal Modes in Population-scale Unlabelled Trajectory Data. In 2018 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2018). Full paper. [\[pdf\]](#)

* Indicates equal contribution.

WORKING PAPERS (MANUSCRIPTS AVAILABLE)

30. **Hancheng Cao**, Jesse Dodge, Kyle Lo, Daniel McFarland, Lucy Lu Wang. The Rise of Open Science: Tracking the Evolution and Perceived Value of Data and Methods Link-Sharing Practices. In submission to **PNAS Nexus**. **Poster award, Stanford Data Science Conference**. [\[pdf\]](#)
31. Jie Li, **Hancheng Cao**, Laura Lin, Youyang Hou, Abdallah Ali. User Experience Design Professionals’ Perceptions of Generative AI. In submission to ACM CHI Conference on Human Factors in Computing Systems (CHI 2024). [\[pdf\]](#)
32. **Hancheng Cao**, Sophie Spatharioti, Daniel Goldstein, Jake Hofman. Comparing scalable strategies for generating numerical analogies. In submission to ACM Transactions on Computer-Human Interaction (TOCHI). [\[pdf\]](#)

* Indicates equal contribution.

TEACHING EXPERIENCE

- Course Assistant (CA), [CS124: From Languages to Information](#), taught by Prof. Dan Jurafsky, Winter 2019-2020.
- Course Assistant (CA), [CS221: Artificial Intelligence: Principles and Techniques](#), taught by Prof. Percy Liang & Prof. Dorsa Sadigh, Fall 2019-2020.

SELECTED AWARDS AND HONORS

- Stanford Data Science Conference Poster Award, 2023
- HCOMP Travel Grant, 2023
- ICSSI Travel Grant, 2023
- ACM CHI 2023 Best Paper Award, 2023
- Stanford Interdisciplinary Graduate Fellow, 3 year full tuition + stipend coverage (\$160,000), 1 of 33 graduate student awardees, university-wide, in cohort
- IC2S2 student scholarship, 2022
- Stanford Department of Music Awards – Friends of Music Graduate Prizes, 2022
- Stanford Friends of Music Scholarship (Harpsichord), 2021
- THINC fellowship, 2021
- ACM CHI 2021 Best Paper Honorable Mention Award, 2021
- ACM CSCW 2020 Best Paper Honorable Mention Award, 2020
- Stanford HAI-AWS Cloud credit award (\$3000), 2020
- SIGCHI Student Travel Grant, 2019
- The James D. Plummer Graduate Fellowship – a School of Engineering (SoE) Fellowship (\$50,000), Stanford University, 2018
- UbiComp Student Travel Grant, 2018
- Outstanding Graduate Award, Tsinghua University, 2018
- Qualcomm Scholarship, 2017 (Awarded to top 33 of 2562 applicants with excellent scientific potential)
- Zhang Mingwei Scholarship, 2016 (Awarded to students for outstanding academic performance)
- Changhong Scholarship, 2015 (Awarded to students for outstanding academic performance)
- Philobiblion Scholarship, 2016 (0.5% of 1000 applicants)
- Tsinghua Comprehensive Excellence Award, 2015–17
- Tsinghua Research Excellence Award, 2015–17
- Tsinghua Academic Excellence Award, 2015–17

PRESENTATIONS

- My Teams Will Go On: Differentiating High and Low Viability Teams through Team Interaction, *SIOP 2024*, invited panelist, Apr 2024 (scheduled)
- Can large language models (LLM) provide useful feedback on research papers? A Large-scale Empirical Analysis, *Microsoft Research Asia ACE Talk Series*, Nov 2023
- Can large language models (LLM) provide useful feedback on research papers? A Large-scale Empirical Analysis, *GPTDAO*, Nov 2023
- The Rise of Open Science: Tracking the Evolution and Perceived Value of Data and Methods Link-Sharing Practices, *ICSSI 2023*
- The Rise of Open Science: Tracking the Evolution and Perceived Value of Data and Methods Link-Sharing Practice, *Stanford Data Science Conference*
- Breaking out of the Ivory Tower: A Large-scale Analysis of Patent Citations to HCI Research, *ICSSI 2023*
- Breaking out of the Ivory Tower: A Large-scale Analysis of Patent Citations to HCI Research, *CHI 2023*
- Breaking out of the Ivory Tower: A Large-scale Analysis of Patent Citations to HCI Research, *Stanford University*, Mar 2023
- Understanding AI Knowledge Transfer from Research to Practice, *IC2S2 2022*
- Predicting and Understanding Team Outcomes Through Digital Trace Data, *IC2S2 2022*
- Beyond Virtual Bazaar: How Social Commerce Promotes Inclusivity for the Traditionally Underserved Community in Chinese Developing Regions, *CHI 2022*
- Large Scale Analysis of Multitasking Behavior During Remote Meetings, *University of Minnesota*, Mar 2022
- Leveraging Digital Trace to Understand Remote Collaboration Dynamics. *Seminar on Social Presence in Virtual Event Space*, Mar 2022.
- A Computational Approach to Understand Micro Dynamics of Remote Collaboration, *Dropbox*, Nov 2021

- A Computational Approach to Understand Micro Dynamics of Remote Collaboration, *Microsoft*, Nov 2021
- You Recommend, I Buy: How and Why People Engage in Instant Messaging Based Social Commerce, *CSCW 2021*
- My Teams Will Go On: Differentiating High and Low Viability Teams through Team Interaction, *AI Pioneer Conference*, Aug 2021
- My Teams Will Go On: Differentiating High and Low Viability Teams through Team Interaction, *THINC Seminar*, Aug 2021
- Large Scale Analysis of Multitasking Behavior During Remote Meetings, *Tsinghua Boston Alumni Association*, Aug 2021
- My Teams Will Go On: Differentiating High and Low Viability Teams through Team Interaction, *University of Washington DUB*, July 2021
- My Teams Will Go On: Differentiating High and Low Viability Teams through Team Interaction, *IC2S2 2021*
- Large Scale Analysis of Multitasking Behavior During Remote Meetings, *IC2S2 2021*
- Large Scale Analysis of Multitasking Behavior During Remote Meetings, *CHI 2021*
- Will This Idea Step Beyond Academia?: Understanding and Predicting Knowledge Transfer from Research to Practice, *Networks 2021*
- Mining Human Mobility Patterns and Urban Dynamics through Spatial Temporal Big Data, *University of Tokyo*, Feb 2021
- Will This Idea Step Beyond Academia?: Understanding and Predicting Knowledge Transfer from Research to Practice, *EMNLP 2020 SDP Workshop*
- My Teams Will Go On: Differentiating High and Low Viability Teams through Team Interaction, *CSCW 2020*
- Rediscovering Aristotle: Are we creating new science or repackaging old science?, *ASA Annual Meeting 2020*
- Modeling the Diffusion of Novel Ideas: The Variable Careers of New Scientific Concepts, *ASA Annual Meeting 2020*
- Will This Idea Step Beyond Academia?: Understanding and Predicting Knowledge Transfer from Research to Practice, *IC2S2 2020*
- When Your Friends Become Sellers: An Empirical Study of Social Commerce Site Beidian, *ICWSM 2020*
- Mining Human Mobility Patterns and Urban Dynamics through Spatial Temporal Big Data, *University of Warwick*, Sep 2019
- Mining Human Mobility Patterns and Urban Dynamics through Spatial Temporal Big Data, *Wayve.ai*, Sep 2019
- Revisitation in Urban Space vs. Online: A Comparison across POIs, websites, and Smartphone Apps, *UbiComp 2019*
- Uniqueness in the City: Urban Morphology and Location Privacy, *UbiComp 2018*

ACADEMIC SERVICES

- **Program Committee Member:** AAAI 2021/2022/2023, AAAI ICWSM 2020/2021/2022/2023
- **Associate Chair:** CHI LBW 2022/2023
- **Reviewer:** PLOS ONE, Nature Scientific Data, CHI, CSCW, UbiComp, MobileHCI, IMC, ICWSM, TMC, Journal of Retailing and Consumer Services
- **Facilitator:** Microsoft New Future of Work 2020 Symposium
- **Session Chair:** UbiComp 2019 CPD workshop
- **Student Volunteer:** CSCW 2020, UbiComp/ISWC 2018

SELECTED MEDIA COVERAGE

- Physics.org, Nov 2023, [Large Language models prove helpful in peer-review process.](#)
- Inside Higher Education, Oct 2023, [AI and peer review: enemies or allies?](#)
- New Scientist, Oct 2023, [Scientists prefer feedback from ChatGPT to judgement by peers](#)
- Stanford HAI, Oct 2023, [Researchers Use GPT-4 to Generate Feedback on Scientific Manuscripts.](#)
- WIRED, May 2021, [It's True. Everyone Is Multitasking in Video Meetings.](#)
- TED WorkLife podcast with Adam Grant, Apr 2022, [Rethinking Flexibility at Work.](#)
- Forbes, Apr 2021, [Turn Your Camera On! Deep Vs. Shallow Learning In A Virtual World](#)
- Forbes, Jul 2021, [Why You Shouldn't Multitask And What You Can Do Instead](#)
- Slack blog, Feb 2023, [Sharpen your focus by identifying bad habits](#)
- Microsoft blog, May 2021, [Making remote and hybrid meetings work in the new future of work](#)
- L'usine Nouvelle, Aug 2021, [Le blog des experts des neurosciences Mode multitâche et visioconférence : les pratiques à adopter et à éviter](#)

- Frankfurter Allgemeine Zeitung, Nov 2021, [Keine Zeit für Multitasking](#)
- Business Daily, Sep 2021, [Steps to boost your productivity during virtual get-togethers](#)
- 量子位, May 2021 [@老板：别开视频会议了，效率低没人 care，斯坦福、微软都可以作证](#)
- 新智元, May 2022 [清华、斯坦福、哈佛揭秘：为何沉迷拼多多「砍一刀」](#)