

# Xinyu Shi

Ph.D. Candidate in School of Computer Science, University of Waterloo

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## RESEARCH INTERESTS

I am a researcher in **HCI**, **Human-Centered AI**, and **Interactive AI Alignment**, focused on improving human-AI alignment through interactions in creative domains. Concretely, I build systems that enable humans to (1) think through problems using externalized, manipulable abstractions, (2) specify visual intent precisely through direct manipulation rather than ambiguous natural language, and (3) inspect and steer AI’s interpretation through structured representations that serve as common ground between human and AI.

## EDUCATION

- 2021 – Present    **Ph.D. in Computer Science**  
University of Waterloo, Canada  
Advisor: Prof. Jian Zhao
- 2016 – 2020    **B.Eng. in Software Engineering**  
Xiamen University, China  
Advisor: Prof. Shihui Guo

## EMPLOYMENT

- Summer 2025    **Adobe Research** — Creative Technologies Lab  
Research Scientist Intern  
Hosts: Dr. Rubaiat Habib Kazi, Dr. Li-Yi Wei, Dr. Cherry Zhao  
Redefined how creators interact with, understand, and supervise VLMs in animation creation [P9].
- Summer 2024    **Adobe Research** — AI Experience Lab  
Research Scientist Intern  
Hosts: Dr. Shunan Guo, Dr. Jane Hoffswell, Dr. Gromit Chan, Dr. Eunyee Koh  
Modeled abstract design intent into computational representations for infographic generation [A2].
- Summer 2023    **Microsoft Research** — Data, Knowledge & Intelligence Group  
Research Scientist Intern  
Host: Dr. Yun Wang  
Repurposed visualization as the instrument to express and refine color intent in video [P6].

## PEER-REVIEWED PUBLICATIONS (FULL PAPERS)

Google Scholar: [link]; Semantic Scholar: [link]

Note about venues: CHI is considered as the top-tier, most prestigious venues in the field of Human-Computer Interaction (HCI), with an annual acceptance rate of 20 - 25%.

🏆 Best Paper Award; 🏅 Honorable Mention and Other Awards; \* Equal Contribution.

- [P9] CHI 2026 **Xinyu Shi**, Li-Yi Wei, Nanxuan Zhao, Jian Zhao, Rubaiat Habib Kazi. Notational Animating: An Interactive Approach to Creating and Editing Animation Keyframes. *In Proceedings of the ACM Human Factors in Computing Systems (CHI)*. 2026.  
**🏅 Best Paper Honorable Mention.**
- [P8] ACL 2026 Zijian Chen\*, Xueguang Ma\*, Shengyao Zhuang\*, Ping Nie, Kai Zou, Andrew Liu, Joshua Green, Kshama Patel, Ruoxi Meng, Mingyi Su, Sahel Sharifymoghaddam, Yanxi Li, Haoran Hong, **Xinyu Shi**, Xuye Liu, Nandan Thakur, Crystina Zhang, Luyu Gao, Wenhui Chen, Jimmy Lin. BrowseComp-Plus: A More Fair and Transparent Evaluation Benchmark of Deep-Research Agent. *In Proceedings of the Annual Meeting of the Association for Computational Linguistics (ACL)*. 2026.
- [P7] CHI 2025 **Xinyu Shi**, Yinghou Wang, Ryan Rossi, Jian Zhao. Brickify: Enabling Expressive Design Intent Specification through Direct Manipulation on Design Tokens. *In Proceedings of the ACM Human Factors in Computing Systems (CHI)*. 2025.
- [P6] CHI 2024 **Xinyu Shi**, Yinghou Wang, Yun Wang, Jian Zhao. Piet: Facilitating Color Authoring for Motion Graphics Video. *Proc. ACM Human Factors in Computing Systems (CHI)*. 2024.  
**🏆 Best Paper Award.**
- [P5] CHI 2024 **Xinyu Shi**, Mingyu Liu, Ziqi Zhou, Ali Neshati, Ryan Rossi, Jian Zhao. Exploring Interactive Color Palettes for Abstraction-Driven Exploratory Image Colorization. *In Proceedings of the ACM Human Factors in Computing Systems (CHI)*. 2024.
- [P4] CHI 2023 **Xinyu Shi**, Ziqi Zhou, Julia Zhang, Ali Neshati, Anjul Kumar Tyagi, Ryan Rossi, Shunan Guo, Fan Du, Jian Zhao. De-Stijl: Facilitating Graphics Design with Interactive 2D Color Palette Recommendation. *In Proceedings of the ACM Human Factors in Computing Systems (CHI)*. 2023.
- [P3] MM 2022 **Xinyu Shi\***, Chaofeng Chen\*, Yipeng Qin, Xiaoming Li, Xiaoguang Han, Tao Yang, Shihui Guo. Real-World Blind Super-Resolution via Feature Matching with Implicit High-Resolution Priors. *In Proceedings of the ACM Multimedia (MM)*. 2022.  
**🏅 Oral Presentation (Top 5%).**
- [P2] Ubicomp 2021 Qijia Shao, Amy Sniffen, Julien Blanchet, Megan E. Hillis, **Xinyu Shi**, Themistoklis Haris, Jason Liu, Melissa Malzkahn, Lorna Quandt, James Mahoney, David J.M. Kraemer, Xia Zhou, Devin Balkcom. Teaching American Sign Language in Mixed Reality. *In Proceedings of the ACM Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT, presented in Ubicomp)*. 2021.

- [P1] **Xinyu Shi**, Junjun Pan, Zeyong Hu, Juncong Lin, Shihui Guo, Minghong Liao, Ye Pan, ISMAR 2019 Ligang Liu. Accurate and Fast Classification of Foot Gestures for Virtual Locomotion. *In Proceedings of the IEEE Intl. Symposium on Mixed and Augmented Reality (ISMAR). 2019.*

## IN SUBMISSIONS

- [S3] Crystina Zhang, Zigeng Xu, **Xinyu Shi**, Raphael Tang, Nandan Thakur, Xueguang Ma, Under Review Yao Lu, Jimmy Lin. Hawkeye: Inspecting Agentic Search Trajectories. *In Submission.*
- [S2] **Xinyu Shi**, Chun Ye, Shunan Guo, Jane Hoffswell, Gromit Chan, Eunyee Koh, Jian Zhao. Under Review Diagrammatic Sketching: Exploring Infographic Design Alternatives. *In Submission.*
- [S1] Cara Li, Xiang Li, **Xinyu Shi**, Jian Zhao. Semantic Ink: Supporting Reuse with Variation Under Review in Annotational Graphics Authoring. *In Submission.*

## EXTENDED ABSTRACTS, WORKSHOPS

- [A2] **Xinyu Shi**, Shunan Guo, Jane Hoffswell, Gromit Yeuk-Yin Chan, Victor S. Bursztyn, Jian CHI EA 2025 Zhao, Eunyee Koh. Comprehensive Sketching: Exploring Infographic Design Alternatives in Parallel. *Extended Abstracts of ACM Human Factors in Computing Systems (CHI Late-Breaking Work 2025).*
- [A1] Zijian Chen\*, Xueguang Ma\*, Shengyao Zhuang\*, Ping Nie, Kai Zou, Andrew Liu, Joshua NeurIPS 2025 Green, Kshama Patel, Ruoxi Meng, Mingyi Su, Sahel Sharifymoghaddam, Yanxi Li, Haoran MTI-LLM Hong, **Xinyu Shi**, Xuye Liu, Nandan Thakur, Crystina Zhang, Luyu Gao, Wenhua Chen, Jimmy Lin. BrowseComp-Plus: A More Fair and Transparent Evaluation Benchmark of Deep-Research Agent *NeurIPS 2025 MTI-LLM Workshop*. 🏆 **Spotlight**.

## PAPER AWARDS

- 2026 **Best Paper Honorable Mention Award** at CHI 2026 as first author [P9]  
Awarded to the top 5% of submissions made to the CHI conference.
- 2025 **Spotlight** at NeurIPS MTI-LLM Workshop as co-author [A1]  
Awarded to the top 7% of accepted submissions to NeurIPS MTI-LLM Workshop.
- 2024 **Best Paper Award** at CHI 2024 as first author [P6]  
Awarded to the top 1% of submissions made to the CHI conference.
- 2022 **Oral Recognition** at ACM MM as co-first author for FeMaSR [P3]  
Recognition given to the top 5% of submissions made to the MM conference for oral presentation.

## HONORS AND SCHOLARSHIPS

- 2026 **Jane Street Fellowship, Honorable Mention**  
One of the 28 Honorable Mention Recognitions among the world-wide competitive applicant pool.

- 2025 – 2027 **David R. Cheriton Graduate Scholarship**, University of Waterloo  
Awarded to top PhD students based on academic research excellence. \$20,000 over 2 years.
- 2022 – 2026 **International Doctoral Student Award**, University of Waterloo  
Awarded to top international doctoral students based on academic excellence. \$53,000 over 4 years.
- 2024 – present **Special Recognitions for Outstanding Reviews** (5 in total)  
Recognition to outstanding reviewers provided highly useful peer reviews.
- 2021 **Vector Scholarship in AI**, Vector Institute  
Awarded to top incoming graduate students for research potential in AI. \$17,500 over 1 year.
- 2021 **Mathematics International Award of Excellence**, University of Waterloo.  
Awarded to incoming international graduate students for research potential. \$5,000 over 2 terms.
- 2016 – 2020 **Award for Excellence in Academic Performance**, Xiamen University  
Awarded to top undergraduate students based on academic excellence. 5,000 CNY each time.

## PAST RESEARCH POSITIONS

- 2021/09 – **University of Waterloo**, Waterloo, ON, Canada  
Present Graduate Student Researcher  
Advisor: Jian Zhao  
Building interactive systems to augment human creativity [P4, P5, P7].
- 2020/12 – **The Chinese University of Hong Kong, Shenzhen**, Shenzhen, China  
2021/08 Research Assistant  
Advisor: Xiaoguang Han  
Proposed an approach based on VQ-GAN for Image Super-Resolution [P3].
- 2019/09 – **Dartmouth College**, Hanover, NH, USA  
2020/03 Research Assistant  
Advisors: Xia Zhou, Xing-Dong Yang  
Leveraged wearable devices & Mixed Reality for Sign-Language teaching [P2].
- 2017/10 – **Xiamen University**, Xiamen, China  
2019/09 Undergraduate Research Assistant  
Advisor: Shihui Guo  
Exploited wearable devices for VR locomotion with gesture recognition [P1].

## ACADEMIC SERVICES

### Organizing Committee

- 2025 – 2026 Assistant to Paper Chairs, CHI 2026

### Program Committee

- 2025 International Program Committee, GI 2025  
2025 Program Committee, Associate Chair, C&C 2025

### Conference Session Chair

- 2026 Paper Session “*Role Play, Creativity and AI*”, CHI 2026
- 2025 Paper Session “*Malleable and Adaptive Interface*”, CHI 2025

## Reviewer

- 2024 – 2026 ACM User Interface Software and Technology Symposium (UIST)
- 2024 – 2025 SIGCHI Conference on Human Factors in Computing Systems (CHI)
- 2026 IEEE Transactions on Visualization and Computer Graphics (TVCG)
- 2024 – 2025 IEEE Visualization and Visual Analytics Conference (VIS)
- 2024 – 2025 SIGCHI Late Breaking Work (CHI LBW)
- 2025 Pacific Conference on Computer Graphics and Applications (Pacific Graphics)
- 2024 ACM Conference on Designing Interactive Systems (DIS)
- 2024 Creativity & Cognition (C&C)

## 🏆 Special Recognitions for Outstanding Reviews (×5):

*CHI’24, CHI’25, UIST’25, CHI LBW’25, C&C’25*

## Student Volunteer

- 2026 Graphics Interface (GI)

## INVITED TALKS

### Interactive Visual Abstractions for Computational Creativity

- 2026/05 Guest Lecture for CS449 at the University of Waterloo, hosted by Prof. Jian Zhao.
- 2026/01 Seminar at the CUHK (Shenzhen), School of AI, hosted by Prof. Feng Yin.
- 2025/11 University of Toronto iSchool Seminar, hosted by Prof. Ebrahim Bagheri.
- 2025/11 Guest Lecture for CS889 at the University of Waterloo, hosted by Prof. Jian Zhao.
- 2025/11 UCSD Design Lab Seminar, hosted by Sirui Tao and Zhicheng Huang.

## MENTORING

- 2025 – **Cara Li**, Master student at University of Waterloo.  
Project: Fluid in-situ graphics creation through reified sketched annotations [S1].
- 2024 – 2025 **Chun Daisy Ye**, Undergraduate student at University of Waterloo, published [S2].  
Now: Software Engineer at Salesforce.
- 2023 – 2024 **Yinghou Wang**, Master student at Harvard University & MIT, published [P6, P7].  
Now: Creative Technologist at Motorola Solutions.
- 2023 **Mingyu Liu**, Undergraduate student at University of Waterloo, published [P5].  
Now: Software Engineer at Bloomberg.
- 2022 **Ziqi Zhou**, Master student at University of Waterloo, published [P4].  
Now: Partner at Puzzle Ventures.
- 2022 **Julia Zhang**, Undergraduate student at University of Waterloo, published [P4].  
Now: Software Engineer at Whatnot.

## TEACHING EXPERIENCE

### Teaching Assistant in University of Waterloo

- CS246 Object-Oriented Software Development. (Winter 2022, Fall 2023, Winter 2025)
- CS251 Computer Organization and Design. (Spring 2022, Winter 2023)
- CS234 Data Types and Structures. (Fall 2022)
- CS115 Introduction to Computer Science. (Fall 2021)

## PRESS COVERAGE

- 2024 *Waterloo News*: Scheming colours faster and easier. [[Link](#)]
- 2023 *GraphicSpeak*: University of Waterloo’s Computer Scientists want Graphic Designers to use better Colors. [[Link](#)]
- 2023 *TechTimes*: Computer Scientists Develop “De-Stijl” Tool With Adobe to Help People Use Color Better in Graphic Design. [[Link](#)]
- 2023 *Waterloo News*: Dreaming in technicolour: Waterloo computer scientists develop a tool to help people use colour better in graphic design. [[Link](#)]