tongyu zhou

PHD CANDIDATE · HUMAN-COMPUTER INTERACTION · CREATIVITY SUPPORT

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Education

Brown University   *Providence, RI*
PH.D. IN COMPUTER SCIENCE   *2020 - 2025*
  Advisor: Jeff Huang

Williams College   *Williamstown, MA*
B.A. IN COMPUTER SCIENCE AND STATISTICS   *2016 - 2020*
  Advisor: Iris Howley
  Academic Honor Societies: *Sigma Xi*, *Mu Sigma Rho*

Aquincum Institute of Technology   *Budapest, Hungary*
COMPUTER SCIENCE STUDY ABROAD PROGRAM   *2018 - 2019*

Research Experience

Adobe – Research Scientist   *San Jose, CA*
DIGITAL MEDIA   *2025-Present*
- Working on creativity support for vector-based design, illustration, and visualization on the web

Brown University – PhD Candidate   *Providence, RI*
ADVISOR: JEFF HUANG   *2020-2025*
- Created on systems spanning both the web and AR domains to bridge the gap between artists' mental models and tool capabilities.
- Investigated how individual, collective, and collaborative creativity can be supported by encouraging designers to derive inspiration from their peers or by example.

Autodesk – Research Scientist Intern   *Toronto, ON, Canada*
ADVISOR: BON ASENIERO, FREDERIK BRUDY, GEORGE FITZMAURICE   *Summer 2024*
- Created an authoring system that allows users to simulate and iterate on the transient atmospheres of 3D virtual spaces by deconstructing atmosphere into multi-modal primitives.

Adobe – Research Scientist Intern   *San Jose, CA*
ADVISOR: CHANG XIAO (2022), GROMIT CHAN (2023)   *Summer 2022, 2023*
- Created a web-based authoring system for infographics that treats a text-based message as the first-class object and uses it to guide LLM-powered infographic asset creation, editing, and syncing. Project was the only intern work that year to be selected to be presented at Adobe SUMMIT Sneaks 2024 as Project Infograph It.
- Designed an end-to-end pipeline for authoring and visualizing instructions for step-wise assembly in smartphone AR.

Research in Industrial Projects for Students (REU at IPAM, UCLA) – Student Researcher   *Los Angeles, CA*
MENTORS: VICTOR LIN, LEAH RUCKLE, KAREN WOOD, MINH PHAM   *2019*
- Designed genetic algorithms to predict Walker constellation parameters that minimized 98% global dilution of precision.

Williams College Department of Computer Science – Research Assistant   *Williamstown, MA*
ADVISOR: IRIS HOWLEY   *2018*
- Created interactive explainables to teach Bayesian Knowledge Tracing to various levels of understanding to spread algorithmic transparency and interpretability, work was instrumental in NSF Grant #1849984.

Gavril Pasternak Lab, Memorial Sloan Kettering Cancer Center – Bioinformatics Intern   *New York, NY*
MENTOR: TAKESHI IRIE   *2017*
- Constructed data models and interactive cladograms to visualize relationships between G-protein coupled receptors splice variants and alternative promoters, signal peptides, and exon abundance.

Publications

*Note: ★ denotes award, * denotes equal contribution*

CONFERENCES

1. Eric Nai-Li Chen, Joshua Kong Yang, Jeff Huang, <u>Tongyu Zhou</u> (2025). L. ink: Procedural Ink Growth for Controllable Surprise. In *Proceedings of the 2025 ACM Symposium on User Interface Software and Technology (UIST '25)*. PDF

2. Ji Won Chung, <u>Tongyu Zhou</u>, Ivy Chen, Kevin Hsu, Ryan A Rossi, Alexa Siu, Shunan Guo, Franck Dernoncourt, James Tompkin, Jeff Huang (2025). InfoVids: Reimagining the Viewer Experience with Alternative Visualization-Presenter Relationships. *arXiv preprint*. PDF

3. Eryn Ma, Priya Dixit, Andy Han, Nicholas Marsano, Brooke Sparks, Ashley Sun, Lucas Tiangco, <u>Tongyu Zhou</u>, Jeff Huang, Alexandra Papoutsaki (2025). EyeDraw: Investigating the Perceived Effects of Shared Gaze on Remote Collaborative Drawing. In *Proceedings of the ACM on Human-Computer Interaction* . PDF

4. <u>Tongyu Zhou</u>, Joshua Kong Yang, Vivian Hsinyueh Chan, Ji Won Chung, Jeff Huang. (2024). PortalInk: 2.5D Visual Storytelling with SVG Parallax and Waypoint Transitions. In *Proceedings of the 2024 ACM Symposium on User Interface Software and Technology (UIST '24)*. PDF

5. <u>Tongyu Zhou</u>, Jeff Huang, Gromit Yeuk-Yin Chan. (2024). Epigraphics: Message-Driven Infographics Authoring. In *Proceedings of the 2024 Conference on Human Factors in Computing Systems (CHI '24)*. (**Best Paper Honorable Mention Award**) PDF ★

6. <u>Tongyu Zhou</u>, Connie Liu, Joshua Kong Yang, Jeff Huang. (2023). filtered.ink: Creating Dynamic Illustrations with SVG Filters. In *Proceedings of the 2023 Conference on Human Factors in Computing Systems (CHI '23)*. PDF

7. Jiaju Ma, Jing Qian, <u>Tongyu Zhou</u>, Jeff Huang. (2023). FocalPoint: Adaptive Direct Manipulation for Selecting Small 3D Virtual Objects. In *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT '23)*. PDF

8. Sarah Bawabe*, Laura Wilson*, <u>Tongyu Zhou</u>*, Ezra Marks, and Jeff Huang. (2021). The UX Factor: Using Comparative Peer Review to Evaluate Designs through User Preferences. In *Proceedings of the 2021 Conference on Computer-supported Cooperative Work (CSCW '21)*. (**Best Paper Honorable Mention Award, Impact Recognition Award**) PDF ★

9. Jing Qian*, <u>Tongyu Zhou</u>*, Meredith Young-Ng*, Jiaju Ma, Angel Cheung, Xiangyu Li, Ian Gonsher, and Jeff Huang. (2021). Portalware: Exploring Free-Hand AR Drawing with a Dual-Display Smartphone-Wearable Paradigm. In *Designing Interactive Systems Conference 2021 (DIS '21)*. PDF

10. Jacob Chang, Rachel Duquette, Katherine Thai, <u>Tongyu Zhou</u>, Minh Pham, Victor Lin, and Karen Wood. (2020). Combining Genetic Algorithms and Machine Learning for Exploring the Navigation Satellite Constellation Design Tradespace. In *Proceedings of the 33rd International Technical Meeting of the Satellite Division of The Institute of Navigation (ION GNSS+ 2020)*

11. <u>Tongyu Zhou</u>*, Haoyu Sheng*, and Iris Howley. (2020). Assessing Post-hoc Explainability of the BKT Algorithm. In *Proceedings of the AAAI/ACM Conference on AI, Ethics, and Society (AIES '20)*. PDF

WORKSHOPS & EXTENDED ABSTRACTS

1. Eric Chen, <u>Tongyu Zhou</u>, Joshua Kong Yang, Jeff Huang. (2025). L. ink: Illustrating Controllable Surprise with L-System Based Strokes. In *Proceedings of the Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI LBW '25)*.

2. <u>Tongyu Zhou</u>, Gromit Yeuk-Yin Chan, Shunan Guo, Jane Hoffswell, Chang Xiao, Victor Soares Bursztyn, and Eunyee Koh. (2024). Data Pictorial: Deconstructing Raster Images for Data-Aware Animated Vector Posters. In *Proceedings of the 2024 ACM Symposium on User Interface Software and Technology (UIST Adjunct '24)*.

3. Young Cho, Grace Mazzarella, Kelvin Tejeda, <u>Tongyu Zhou</u>, and Iris Howley. (2020). What is Bayesian Knowledge Tracing? Poster presentation at the *IEEE VIS Workshop on Visualization for AI Explainability*.

Invited Talks, Press, & Media Coverage

11/6/25	**Concept Authoring for Creative Visual Media**, Boston University
11/18/24	**Press:** Brown CS PhD Student Tongyu Zhou Has Been Selected For MIT's EECS Rising Stars Program, Brown University
3/27/24	Project Infograph It (**Press:** Adobe Research, Fast Company, ZDNET), Adobe SUMMIT
2/8/24	**Introduction to UX Factor and Sneak Peek into Creativity Support Research**, University of Rhode Island

Awards, Fellowships, & Grants

2024	**EECS Rising Stars**, MIT
2024	**CHI Honorable Mention Award, Conference Travel Fund**, ACM, Brown University
2023	**Conference Travel Fund, International Travel Fund**, Brown University
2021	**CSCW Honorable Mention Award, Impact Recognition Award**, ACM
2020	**Andries van Dam Graduate Fellowship**, Brown University
2020	**Outstanding Undergraduate Researcher Awards Honorable Mention**, CRA
2019	**Computer Science Class of 1960's Scholars**, Williams College
2018	**Summer Science Research Fellowship**, Williams College
2017	**Murphy Family Scholarship**, Williams College

Service

Note: ★ denotes Special Recognitions for Outstanding Review

2026	CHI *(Paper Reviewer ★)*
2025	UIST *(Paper Reviewer)*, CHI *(Paper Reviewer ★)*
2024	CHI *(Paper Reviewer ★)*
2023	CHI *(Paper Reviewer, Session Chair)*, Pacific Graphics *(Paper Reviewer)*
2022	CHI *(Student Volunteer)*
2021	CSCW *(Student Volunteer)*, CHI (Paper Reviewer)

Mentoring

2025	Yuzhe You *(University of Waterloo)*, Shishi Xiao *(Brown University)*
2024-2025	Eric Chen *(Brown University)*
2022-2024	Joshua Kong Yang *(Brown University)*
2022	Connie Liu *(Brown University)*
2021	Sarah Bawabe *(Brown University)*, Laura Wilson *(Brown University)*
2020	Ezra Marks *(Brown University)*

Teaching Experience

Fall 2022	**User Interfaces and User Experience**, Graduate TA for Jeff Huang, Brown University
2019-2020	**Algorithm Design and Analysis**, TA for Shikha Singh, Williams College
Fall 2018	**Algorithm Design and Analysis**, TA for William Lenhart, Williams College
Fall 2017	**Data Structures and Advanced Programming**, TA for Andrea Danyluk & Iris Howley, Williams College

OTHER SKILLS

Art & Design: [portfolio]