Zixin (Nicole) Zhao

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RESEARCH AREA

Human Computer Interaction (HCI), Visualization, Natural Language Processing (NLP)

EDUCATION

Expected May 2027	**Doctor of Philosophy**, Computer Science University of Toronto Supervisors: Fanny Chevalier and Gerald Penn
Aug 2023	**Master of Science**, Computer Science Ontario Tech University Supervisor: Dr. Christopher Collins Thesis: *Gloss Positioning for a Gaze Aware L2 Reading Aid [link]*
May 2021	**Bachelor of Science**, Electric Engineering major and Computing Science minor University of Alberta

RESEARCH EXPERIENCE

Sep 2023 to Present	**Research Assistant**, DGP and CL Lab, University of Toronto Supervisor: Fanny Chevalier and Gerald Penn Designing, running, and analyzing participant studies. Prototyping LLM-based interactive visualization tools for creative writing using React, Vue.js, D3. Developing and evaluating LLM capabilities through creative writing tasks. *Topics: Automatic Summarization • Writing Support Tools • Applications of LLMs*
Sep 2023 to Apr 2024	**Research Associate**, vialab, Ontario Tech University Supervisor: Christopher Collins Design participant studies and conduct qualitative analysis on study data for projects on interpreting machine learning outputs through a visual analytics system for educational contexts. *Topics: Qualitative Analysis • Learning Analytics • Interactive Visualization*
May 2021 to Aug 2023	**Research Assistant**, vialab, Ontario Tech University Supervisor: Christopher Collins Drove multiple projects ranging from mental health based visualizations to gaze-based language learning tools. Prototyped gaze-based reading tool using Python, Electron, and D3.js. Conducted qualitative and quantitative analysis of study results. *Topics: Eye Tracking • Language Learning • Mental Health Chatbot • Visualization*
Jun 2019 to Apr 2021	**Research Assistant**, EdTeKLA, University of Alberta Supervisor: Carrie Demmans Epp Full-stack developer for CreeTutor, a language learning system for Plains Cree (y-dialect). Designed and built interactive family tree visualizations. Guided the annotation of a dataset for negative language transfer of Chinese ESL learners *Topics: Language Learning • Negative Language Transfer • Visualization*

May 2018 to Dec 2018	**Research Assistant**, Machine Intelligence Group, University of Western Australia Supervisor: Ajmal Mian Building and training deep models to approximate apparent age of human faces using rendered 3D faces with tensorflow and keras. *Topics: Deep Learning • Fine Tuning • Computer Vision*

TEACHING EXPERIENCE

Sep 2025 to Present	**Teaching Assistant**, University of Toronto • CSC 316 (Data Visualization: Foundations and Advanced Programming)
May 2025 to Aug 2025	**Course Prep Teaching Assistant**, University of Toronto • CSC 316 (Data Visualization: Foundations and Advanced Programming)
Jan 2025 to Apr 2025	**Teaching Assistant**, University of Toronto • CSC 316 (Data Visualization: Foundations and Advanced Programming) **Project Supervisor**, University of Toronto • CSC 495 (Undergraduate Research Project: *Interactive Visualization for Writers*)
Sep 2024 to Dec 2024	**Teaching Assistant**, University of Toronto • STA 313 (Data Visualization) • CSC 485 (Computational Linguistics) **Project Supervisor**, University of Toronto • CSC 494 (Undergraduate Research Project: *Narrative Structure of Fanfictions*) **Instructor**, Her Code Camp • Curriculum developer and instructor for a 6 week program ("*Hey Chat, Code Bits for Cute Fits*")
Sep 2023 to Apr 2024	**Teaching Assistant**, University of Toronto • CSC 2537 (Graduate Seminar: Information Visualization; Fall 2023 and Winter 2024 sessions) **Graduate Mentor**, University of Toronto • PRISM: Preparation for Research through Immersion, Skills, and Mentorship
Dec 2021 to Apr 2023	**Teaching Assistant**, Ontario Tech University • CSCI 4160 (Interactive Media - Introduction to Unity) • CSCI 4210 (Information Visualization) • CSCI 4620 (Human Computer Interaction)
Jan 2018 to Aug 2023	**Tutor**, University of Alberta • High school math and physics (Alberta curriculum) • University level introduction programming languages (Python, C/C++, MATLAB) • First and second year courses in calculus and physics
May 2017 to Aug 2017	**Summer Instructor**, DiscoverE • Course curriculum development for STEM classes aimed at Grade 9 students in Alberta and the Northwest Territories

PUBLICATIONS, PEER REVIEWED

Z. Zhao, D. Masson, Y. Kim, G. Penn, F. Chevalier. (2025), Making the Write Connections: Linking Writing Support Tools with Writer Needs. *Proc. of Conf. on Human Factors in Computing Systems (CHI '25)*. DOI: 10.1145/3706598.3713161

D. Masson, **Z.Zhao**, F. Chevalier. (2025) Visual Story-Writing: Writing by Manipulating Visual Representations of Stories. *Proc. of Conf. on User Interface Software and Technology* (*UIST '25*).

D. Cerrera, **Z.Zhao**, A. Thomas, D. Wigdor. (2025) Nabokov's Cards: An LLM-Assisted Co-Writing System to Support Bottom-Up Creative Writing. *Creativity and Cognition (C&C '25)*

T. Yu, K. Shi, **Z. Zhao**, G. Penn. (2025), Multi-Agent Based Character Simulation for Story Writing. *Proc. of the 4th Workshop on Intelligent and Interactive Writing Assistants (In2Writing 2025)*.

R. Weagant*, **Z. Zhao***, A. Bradley, C. Collins. (2024) AdVizor: Using Visual Explanations to Guide Data-Driven Student Advising. *EduVis 2024: IEEE VIS Workshop on Visualization Education, Literacy, and Activities (EduVis 2024)*. *equal contribution

C. Collins, S. Arbour, N. Beals, S. Yama, J. Laffier, **Z. Zhao**. (2022) Covid Connect: Chat-Driven Anonymous Story-Sharing for Peer Support. *Proc. of Designing Interactive Systems Conference (DIS '22:)*. 301-318. DOI: 10.1145/3532106.3533545

F. L. Wanderly, **N. Zhao**, and D. C. Epp. (2021) Negative language transfer in learner English: A new dataset. *NAACL-HLT 2021*. 3129–3142, DOI: 10.18653/v1/2021.naacl-main.251

WORKS IN PROGRESS

Can Large Language Models Summarize Long Narratives? A Study of Holistic versus Segmented Story Summarization, Long Paper, Submitted to *AACL 2026*

PRESENTATIONS AND POSTERS

Z.Zhao, D. Cerrera, A. Thomas, D. Wigdor. (2025) Nabokov's Cards: An LLM-Assisted Co-Writing System to Support Bottom-Up Creative Writing. ELO. [Presentation] Toronto, ON, Canada.

Z. Zhao, D. Masson, Y. Kim, G. Penn, F. Chevalier. (2025), Making the Write Connections: Linking Writing Support Tools with Writer Needs. TorCHI. [Presentation] Toronto, ON, Canada. [link]

Z. Zhao, J. Bo, K. Singh, (2024) *Make it Happier! Discretizing and Amplifying Happiness in Animated Faces.* GI 2024. [Poster] Halifax, NS, Canada. [link]

Z. Zhao (2022). *Work in Progress: Exploration of glosses for gaze enhanced language learning applications.* 10 min [Presentation]. CAN-CWIC, Toronto, ON, Canada.

O. McLeod, **Z. Zhao**, A. Sparrow, D. Lothian, K. Richards, G. Akcayir, C. Demmans Epp, (2021) *Helping Revitalize Plains Cree with User Centered Design.* ReverseEXPO. [Poster] Edmonton, AB, Canada. [link]

M. Yousef, E. Whitby, **N. Zhao** (2020) *Energy Monitoring System for a Transactive Market.* 15 min [Presentation] IEEE Capstone Scholarship Winners. Edmonton, AB, Canada.

AWARDS AND SCHOLARSHIPS

July 1, 2025 Value: $15,000	Ontario Graduate Scholarship Program (OGS)
Nov 11, 2023 Value: $1000	Faculty of Arts and Science Program Level Fellowship
Apr 1, 2020 Value: $2000	IEEE Capstone Award
Sep 1, 2018 Value: $6000	Queen Elizabeth II Scholars (QES) Scholarship

RELEVANT ACTIVITIES

2025 - Present	Graduate Mentor Program Coordinator, Computer Science Graduate Students (CSGS)
2024 - Present	Reviewer (UIST 2024, 2025; CHI 2025; C&C 2025)
2023 - 2025	Social Coordinator, Computer Science Graduate Students (CSGS)
2025	Mentor, CS Academy
2024	Triaging
2024	Panelist, Web-Based Surveys - Battling the Bots, Research Roundtable Series
2024	Judge, GenAI Genesis Hackathon
2017 - 2020	Mentor, DiscoverE