

Zixin (Nicole) Zhao

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RESEARCH AREA

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

EDUCATION

- Started Sep 2023 **Doctor of Philosophy**, Computer Science
University of Toronto
Supervisors: Fanny Chevalier and Gerald Penn
- 2023 **Master of Science**, Computer Science
Ontario Tech University
Supervisor: Dr. Christopher Collins
Thesis: *Gloss Positioning for a Gaze Aware L2 Reading Aid* [[link](#)]
- 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
Prototyping a GPT-assisted narrative visualization tools for creative writers using React, Vue.js, D3.js.
Designing, running, and analyzing participant studies. Developing and evaluating NLP pipelines using GPT, Claude, and LLAMA3 for story text generation and summary generation.
Topics: Automatic Summarization • Writing Support Tools • Applications of LLMs
- Sep 2023 to Apr 2024 **Research Associate**, vialab, Ontario Tech University
Supervisor: Christopher Collins
Qualitative analysis of an interactive visualization for a visual analytics system for advisors aid analytics system for machine learning output interpretation.
Topics: Qualitative Analysis • Learning Analytics • Interactive Visualization
- May 2021 to Aug 2023 **Research Assistant**, vialab, Ontario Tech University
Supervisor: Christopher Collins
Thematic analysis of text data from a mental health based visualization tool. Prototyping and testing an eye tracking based reading tool for language learners using mainly Electron with JavaScript libraries.
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 development for CreeTutor, a language learning system for Plains Cree (y-dialect). Building interactive family tree visualizations. Annotated 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

May 2025 to Present **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](https://doi.org/10.1145/3706598.3713161)

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](https://doi.org/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](https://doi.org/10.18653/v1/2021.naacl-main.251)

WORKS IN PROGRESS

Visual Storywriting: Writing by Manipulating Visual Representations of Stories, Long Paper, Submitted to *UIST 2025*, <https://arxiv.org/abs/2410.07486>

Can Large Language Models Summarize Long Narratives? A Study of Holistic versus Segmented Story Summarization, Long Paper, To be submitted to *NAACL 2026*

PRESENTATIONS AND POSTERS

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)
2023 - 2025	Social Coordinator, Computer Science Graduate Students (CSGS)
2025	Mentor, CS Academy
2024	Panelist, Web-Based Surveys - Battling the Bots, Research Roundtable Series
2024	Judge, GenAI Genesis Hackathon
2017 - 2020	Mentor, DiscoverE