

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 LLAMA 3 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

Jan 2025 to Present **Teaching Assistant**, University of Toronto
 • CSC 316 (Data Visualization: Foundations and Advanced Programming)

Sep 2024 to Dec 2024 **Teaching Assistant**, University of Toronto
 • STA 313 (Data Visualization)
 • CSC 485 (Computational Linguistics)

Project Supervisor, University of Toronto
 • CSC 495 (Undergraduate Research Project: *Narrative Structure of Fanfictions*)

Instructor, Her Code Camp
 • Curriculum developer and instructor for a 6 week program titled “*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. *CHI '25*. DOI: [10.1145/3706598.3713161](https://doi.org/10.1145/3706598.3713161)

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*. *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. *DIS '22: Designing Interactive Systems Conference*. 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

Nabokov's Cards: An LLM-Assisted Co-Writing System to Support Bottom-Up Creative Writing, Full paper, Submitted to *C&C 2025*

Can Large Language Models Summarize Long Narratives? A Study of Holistic versus Segmented Story Summarization, Long Paper, To be submitted to *ACL 2025*

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

PRESENTATIONS AND POSTERS

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 [Conference 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

Nov 11, 2023 Value: \$1000	Faculty of Arts and Science Program Level Fellowship
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Apr 1, 2020 value: \$2000	IEEE Capstone Award
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Sep 1, 2018 Value: \$6000	Queen Elizabeth II Scholars (QES) Scholarship
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RELEVANT ACTIVITIES

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