Zixin (Nicole) Zhao

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RESEARCH AREA

Human Computer Interaction (HCI), Information 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*

2021   **Bachelor of Science**, Electric Engineering major and Computing Science minor
University of Alberta

RESEARCH EXPERIENCE

Sep 2023 to
Present   **Graduate Research Assistant**, DGP and CL Lab, University of Toronto
Supervisor: Fanny Chevalier and Gerald Penn
- Developing writing supports tools

Sep 2023 to
Present   **Research Associate**, vialab, Ontario Tech University
Supervisor: Christopher Collins
- Gaze intervention methods for reading technologies
- Organization, transcription, and analysis of study material

May 2021 to
Aug 2023   **Graduate Research Assistant**, vialab, Ontario Tech University
Supervisor: Christopher Collins
- Analysis on user input data to a mental health chatbot response visualization tool

Jun 2019 to
Apr 2021   **Research Assistant**, EdTeKLA, University of Alberta
Supervisor: Carrie Demmans Epp
- Full-stack developer for CreeTutor, a web-based language learning system for Plains Cree(y-dialect)
- Family tree visualizations for Cree kinship learning
- Released dataset of negative language transfer of ESL students with Chinese L1

May 2018 to
Dec 2018   **Research Assistant**, Machine Intelligence Group, University of Western Australia
Supervisor: Ajmal Mian
- Approximate apparent age of human faces using rendered 3D faces

TEACHING EXPERIENCE

Sep 2024 to present	**Teaching Assistant**, University of Toronto • STAT 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) • Introductory 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

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*.

Z. Zhao (2023) Gloss Positioning for a Gaze Aware L2 Reading Aid. *Master's Thesis*. [link]

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. 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*. 3129–3142, https://doi.org/10.18653/v1/2021.naacl-main.251

WORKS IN PROGRESS

Controllable Story Outline Generation, Long Paper, To be submitted to *WR-AI-CogS Workshop at COLING 2025*

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

Making the Write Connections: Linking Writing Support Tools with Writer Needs, Long Paper, Submitted to *CHI 2025*

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

Mar 26, 2024	Department of Computer Science Graduate Program Award
Nov 11, 2023	Faculty of Arts and Science Program Level Fellowship
Apr 1, 2020	IEEE Capstone Scholarship
Sep 1, 2018	Queen Elizabeth II Scholars (QES) Scholarship
Sep 1, 2015	Canadian Association of Petroleum Producers Academic Excellence Scholarship in Engineering
Sep 1, 2015	Faculty of Engineering Academic Excellence Scholarship

RELEVANT ACTIVITIES

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