

# Zixin (Nicole) Zhao

DGP Lab  
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<https://zxnnic.github.io/>

## RESEARCH AREA

Human Computer Interaction (HCI), Information Visualization, Natural Language Processing (NLP), Educational Technology, Language Learning

## 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

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|----------------------|--|
| Sep 2023 to present  | <b>Teaching Assistant</b> , University of Toronto <ul style="list-style-type: none"> <li>CSC 2537 (Graduate Seminar: Information Visualization)</li> </ul><br><b>Graduate Mentor</b> , University of Toronto <ul style="list-style-type: none"> <li>PRISM: Preparation for Research through Immersion, Skills, and Mentorship</li> </ul>   |
| Dec 2021 to Apr 2023 | <b>Teaching Assistant</b> , Ontario Tech University <ul style="list-style-type: none"> <li>CSCI 4160 (Interactive Media Introduction to Unity)</li> <li>CSCI 4210 (Information Visualization)</li> <li>CSCI 4620 (Human Computer Interaction)</li> </ul>   |
| Jan 2018 to Aug 2023 | <b>Tutor</b> , University of Albert <ul style="list-style-type: none"> <li>Plan and create material that aligns with the Alberta curriculum for high school math and physics</li> <li>Delivered educational sessions one-on-one and small group format for university level courses on programming languages (Python, C/C++, MATLAB), first/second year courses in calculus and physics</li> </ul> |
| May 2017 to Aug 2017 | <b>Summer Instructor</b> , DiscoverE <ul style="list-style-type: none"> <li>Collaborated with fellow instructors to create presentations and interactive activities during class sessions. Taught students from Alberta and the Northwest Territories on STEM related content.</li> </ul>  |

## PUBLICATIONS, PEER REVIEWED

- 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

Using Visual Explanations to Guide Data-Driven Student Advising, Submitted to *AIED Conference 2024*

## PRESENTATIONS AND POSTERS

- 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.

## REFERENCES

*Available upon request*

Facilitated labs for game development using Unity, helped debug C# code, mentored students on game development ideas, worked with 2D and 3D game development; developed and lab assignments using JavaScript (mainly using d3.js) on Observable notebooks, developed lab assignments for creating visualizations and data handling using R, facilitated lab sessions and led discussion sessions, assignment (coding, essay) and exam marking, gave lab lectures on information visualization; mentored students formulating projects for a course on Human Computer Interaction, designed assignments to teach user centered design and how to design participant studies, led discussion to develop group project ideas