# Raina Cao

(+1) 415-425-5289 | rainacao01@gmail.com | www.rainacao.github.io | rainacao | rainacao | Raina Cao

## Education

**University of British Columbia**  *Vancouver, BC, Canada*

B.Sc. in Bachelor of Science, Cognitive Systems (Brain and Cognition)  *Nov 2025*

## Publications

*2025*

4. Quantifying Latencies: A Conversation Analysis Approach to Human-Agent Interactions in Virtual Reality.
   **R Cao**, M Pan, P Liu, V Ariyawansa, M Prpa, A Kitson.
   *ACM Conference on Human Factors in Computing Systems 2026, Sep 2025. Full Paper (Under Review).*
3. LLM-based Embodied Conversational Agent for Reducing Foreign Language Speaking Anxiety in Social VR.
   M Pan, P Liu, J Zhang, **R Cao**, V Ariyawansa, Y Li, B Yao, D Wang, P Pasquier, A Kitson, M Prpa.
   *ACM Conference on Human Factors in Computing Systems 2026, Sep 2025. Full Paper (Under Review).*
2. Synthetic Patient and Interview Transcript Creator: An Essential Tool for LLMs in Mental Health.
   A Warner, J LeDue, **R Cao**, J Tham, TH Murphy.
   *Frontiers in Digital Health, Sep 2025. Full Paper, Published.*

*2024*

1. Scholar Metrics Scraper (SMS): Automated Retrieval of Citation and Author Data.
   **R Cao**, NA Cheung, D Giustini, J LeDue, TH Murphy.
   *Frontiers in Research Metrics and Analytics, Feb 2024. Full Paper, Published.*

## Research Experience

**Northeastern University, Khoury College of Computer Sciences**  *Vancouver, BC, Canada*

Visiting Researcher w/ Alexandra Kitson & Mirjana Prpa  *Apr 2025 - Sep 2025*

- Ideated data analysis directions, conducted literature review, developed code, and wrote manuscript for conference submission.
- Participated in weekly lab meetings and 1-on-1 meetings with supervisors to update progress and incorporate feedback.

**British Columbia Centre for Disease Control, Data and Analytic Services**  *Vancouver, BC, Canada*

Data Scientist w/ Lisa Y.W. Tang  *Sep 2024 - Apr 2025*

- Conducted literature review, data collection, and research report for manuscript.
- Evaluated misinformation classification using open-source LLMs and traditional ML models across multiple preprocessing strategies, success metrics and limitations in report and conference presentation.

**University of British Columbia, Dynamic Brain Circuits in Health and Disease Cluster**  *Vancouver, BC, Canada*

Open Science Specialist w/ Jeffrey LeDue & Timothy H. Murphy  *Jun 2023 - May 2024*

- Developed code and wrote manuscript for collaboration with physician, leading to poster presentation and manuscript.
- Conducted data collection and analysis, and revised manuscript according to reviewer comments in journal submission process.

## Extended Abstracts & Presentations

2. An Exploratory Analysis of an Open Large Language Model on Conversational Safety Annotations.
   **R Cao**, LYW Tang.
   *ACM Conference on Human Factors in Computing Systems 2025, Human-centered Evaluation and Auditing of Language Models Workshop.*
   Yokohama, Japan. Apr 2025. Peer-reviewed Extended Abstract and Presentation.

1. Generating Synthetic Interview Transcripts in a Psychiatric Setting Using a Double-Language Model Approach.
   **R Cao**, J LeDue, C Zhao, D Ramandi, J Tham, TH Murphy.
   *Canadian Association for Neuroscience.*
   Vancouver, Canada. May 2024. Abstract and Poster Presentation.

## Teaching & Service

NRSC 510: Topics in Neurodata Mentor, Dynamic Brain Circuits  *2023-2024*
- Mentored 5+ Neuroscience MS and PhD students 1:1 in Python and Matlab projects.

Neuroscience Data Analysis Workshop Instructor, Dynamic Brain Circuits  *2024*
- Co-taught workshops and maintained Jupyter-based image-processing guides used in hands-on training sessions.

Senior Student Mentor, Cognitive Systems Tri-Mentoring Program  *2022-2023*
- Advised a junior student, providing academic guidance and facilitating meetings with an industry mentor.

Senior Illustrator, The Ubyssey Student Newspaper  *2022*
- Produced illustrations to accompany newspaper articles through iterative processes and close discussions with Visuals Editor.