Graduate positions at McMaster University in Natural Language Processing for Medical Texts

The Reading Lab at the [Department](#) of Linguistics and Languages, Centre for Advanced Research in Experimental and Applied Linguistics ([ARiEAL](#)) at McMaster University invites applications for one or two graduate positions at the Master's or PhD level, starting in September 2026. We are looking for bright, motivated and well-trained individuals interested in working with machine learning and Natural Language Processing tools for analyzing texts in the health care domain. Successful candidates will join collaborative projects co-led by Dr Victor [Kuperman](#) and researchers and clinicians from [The Foundation for Medical Practice Education](#) and the [McMaster Institute for Research on Aging](#). Candidates for the PhD position will be expected to have completed a Master's degree in linguistics, psychology, computer science, data science, cognitive science or related disciplines, by the beginning of the project (September 2026). Candidates for the MSc position will be expected to have completed an undergraduate degree in the respective fields by the beginning of the project as well.

We are currently looking for up to two graduate students at the Master's or PhD level to work on the projects summarized below:

Project 1: Text Analytics for Medical Practice Education

The project is to analyze a rich data set free-text self-reflection forms that thousands of family physicians in Canada have been completing as part of their continuing education. In the self-reflection forms, the physicians document the changes that they recognize as necessary and plan to implement in their clinical practice, as well as the expected barriers and enablers for planned practice implementations. The project aims to use tools of machine learning and Natural Language Processing to automate several text analytical processes of the data set (going back to 2012) to better understand and inform change in the medical practice.

Project 2: Linguistic markers of cognitive impairments in aging populations

This project is to analyze language and eye-tracking data collected during performance of visual, cognitive and language tasks in a longitudinal study of healthy aging. The project will rely on tools of machine learning and Natural Language Processing harvest rich eye-tracking and language data. The goal is to characterize language and cognitive characteristics of healthy aging, and potentially to identify behavioral predictors of dementia.

Successful applicants will be expected to contribute to developing pipelines for analyzing existing data. They may also contribute to designing and implementing experimental studies. Students will communicate findings through publications in scholarly journals and conference presentations: Additional budget is available for conference travel. Students will also engage in knowledge translation for stakeholders in the field of healthcare and medical education.

Ideal candidates for both projects will have foundational knowledge in linguistics and a strong command of statistics and programming skills, especially in machine learning and Natural Language Processing. Knowledge of eye-tracking is an asset.

Successful candidates will be admitted to the graduate program in the Cognitive Science of Language housed at the Department of Linguistics and Languages, Faculty of Humanities, McMaster University, and will be expected to complete the curriculum of the respective MSc or PhD degree. Successful candidates will be awarded the standard Master's or PhD funding packages, in alignment with their level of studies, as well as guaranteed additional research scholarships or research assistantships.

If you are interested in applying, please submit a letter of intent describing your interest in the project and qualifications (1-2 pages) as well as your CV to readlab@mcmaster.ca by December 21, 2025. For all questions, please contact Victor Kuperman at readlab@mcmaster.ca