

Research Assistant Opportunity
NSERC USRA (Undergraduate Student Research Award)

Position Start Date: September 2026

Overview:

Dr. Ali Dewan (<https://www.athabascau.ca/science-and-technology/our-people/ali-dewan.html>) at School of Computing and Information Systems, Athabasca University, are looking for an eligible student who can work full-time for a full 16 weeks for the Fall Term (September – December 2026) to apply for NSERC USRA (Undergraduate Student Research Award).

NSERC USRA instructions and forms are available on the website:
http://www.nserc-crsng.gc.ca/Students-Etudiants/UG-PC/USRA-BRPC_eng.asp

Multimodal Cognitive Engagement Detection in Online Learning:

Cognitive engagement refers to the cognitive effort students invest in their learning activities. It involves both mental and physical effort, with observable behaviors serving as indicators. Automatically measuring cognitive engagement can provide valuable insights for students and instructors. Researchers found direct link between students' success and their Cognitive engagement. Although some studies have investigated Cognitive engagement detection in classroom settings, relatively little work has focused on online learners. A major challenge in detecting cognitive engagement in online environments is the asynchronous nature of learning, the lack of unobtrusive cues, and limited communication between instructors and learners. The goal of this research is to design and develop a system for cognitive engagement detection of online learners by integrating data from a wide range of sources, including facial expressions, clickstream data, quiz and assessment scores, time-on-task indicators, forum posts, interaction logs, navigation patterns, and physiological signals. In addition, we will develop a pedagogical agent that uses cognitive engagement detection results and integrate the agent with the cognitive engagement detection system in an online learning environment, to enhance learners' engagement. This study will employ multimodal data that can be captured unobtrusively.

NSERC USRA Eligibility:

1. be a Canadian citizen or permanent resident of Canada as of the deadline date for applications at the university.
2. be registered, as of the deadline date for applications at the university, in a bachelor's degree program at an eligible university.
3. have obtained, over the previous years of study, a cumulative average of at least second class (a grade of "B" or "B-," if applicable) as defined by your university.

4. may hold only one university USRA per fiscal year (April 1 to March 31).
5. may hold a maximum of three university USRAs throughout your undergraduate university career.
6. have completed all the course requirements of at least the first year of university study (or two academic terms) of your bachelor's degree.
7. have been registered in at least one of the two terms immediately before holding the award in a bachelor's degree program at an eligible university.
8. not have started a program of graduate studies in the natural sciences or engineering at any time.
9. be engaged on a full-time basis in research and development activities in the natural sciences or engineering during the tenure of the award.

How to apply:

Qualified individuals are encouraged to submit their application by email to Dr. Ali Dewan at adewan@athabascau.ca. Applications should include (as a single PDF file) a brief cover letter that summarizes your skills, interests and experience; and a current resume or curriculum vitae.

The deadline for application is July 20, 2026.

Athabasca University and the researchers are committed and seek to support equity in employment and research opportunities. We strongly encourage applications from Indigenous people, people of colour, people with disabilities, 2SLGBTQ+ people, women, and other historically marginalized groups. Applicants are welcome, but not required, to self-identify in their letter of application.

