

Graduate Academic Assistant

Learning Analytics and Computational Learning Sciences

Principal Investigator Dr. Fatemeh Salehian Kia

Unit School of Information, University of British Columbia

Position Overview

We are seeking a Graduate Academic Assistant (GAA) to support a pilot research project examining how learning analytics and computational methods can be used to identify meaningful behavioural signals of students' self-regulated learning.

The project is part of a broader research program investigating how learning analytics and artificial intelligence can support students' self-regulated learning in context-sensitive ways. This initial phase focuses on identifying and operationalizing theoretically grounded behavioural signals from historical Canvas LMS data and developing methods to validate these signals through students' self-reports in a subsequent prospective study.

The GAA will work closely with the Principal Investigator to connect theories of self-regulated learning with the analysis of longitudinal digital trace data. The position is particularly suitable for a graduate student interested in learning analytics, computational learning sciences, educational data science, or machine learning in educational contexts.

Responsibilities

The Graduate Academic Assistant will contribute to several components of the pilot study, including:

- Conducting a focused review of research on self-regulated learning, learning analytics, digital trace data, and computational approaches to modelling learner behaviour.
- Contributing to the development of a conceptual framework for identifying potential regulatory triggers and behavioural signals in learning-management-system data.
- Preparing, cleaning, transforming, and documenting historical Canvas LMS data for analysis.
- Constructing temporal and behavioural features from longitudinal student interaction data.
- Developing operational definitions for theoretically meaningful candidate signals, such as patterns related to task initiation, pacing, engagement, feedback use, revision, help seeking, or other forms of regulatory activity.
- Conducting exploratory, descriptive, temporal, statistical, and/or machine-learning analyses to examine candidate behavioural signals.
- Investigating when identified patterns occur, under what task conditions they occur, and how they vary across learners and learning contexts.
- Documenting alternative interpretations and limitations associated with inferring regulatory processes from behavioural trace data.
- Contributing to the design of a short diary or experience-sampling protocol that can be used in a subsequent study to validate candidate signals against students' contemporaneous self-reports.
- Supporting the development of technical specifications for translating promising signals into prospective detection mechanisms in collaboration with the UBC learning analytics team.
- Maintaining clear and reproducible documentation of data-processing and analytic procedures.
- Participating in regular research meetings and contributing to project reports, presentations, conference submissions, and manuscripts, as appropriate.

Required Qualifications

- Currently enrolled in a graduate program at UBC in Information Studies, Education, Learning Sciences, Computer Science, Data Science, Cognitive Science, Psychology, Statistics, or a related discipline.
- Strong quantitative and analytical skills.
- Experience using Python or R for data processing and analysis.
- Experience working with structured or longitudinal datasets.
- Ability to independently clean, organize, transform, and document research data.
- Interest in learning analytics, educational technology, self-regulated learning, computational social science, or AI in education.
- Strong written communication and organizational skills.
- Ability to engage with interdisciplinary research literature and translate conceptual ideas into operational measures.
- Strong attention to detail and the ability to work independently while collaborating closely with the research team.

Preferred Qualifications

Experience in one or more of the following areas would be an asset:

- Learning analytics or educational data mining.
- Self-regulated learning or learning-sciences research.
- Analysis of LMS, clickstream, event-log, or other digital trace data.
- Longitudinal, temporal, or sequential analysis.
- Statistical modelling or machine-learning methods.
- Python libraries such as pandas, NumPy, scikit-learn, statsmodels, or related tools.
- Feature engineering and behavioural signal detection.
- Canvas LMS data or educational platform APIs.
- Survey, diary, or experience-sampling methods.
- Git, GitHub, or other reproducible research workflows.

Applicants are not expected to have expertise in all of these areas. Candidates with strong computational or quantitative skills and an interest in developing expertise in learning sciences and learning analytics are encouraged to apply.

Research Environment

The GAA will work directly with Dr. Fatemeh Salehian Kia at the UBC School of Information on a pilot study situated at the intersection of learning sciences, learning analytics, machine learning, and human-centered AI in education.

The successful candidate will contribute to the methodological foundations of a larger research program investigating when behavioural evidence from digital learning environments is sufficiently meaningful and reliable to inform context-sensitive educational support.

Appointment

Appointment type	Graduate Academic Assistant (GAA)
Term	October 1 to December 15, 2026
Expected hours	120 total hours
Compensation	In accordance with the applicable UBC GAA rate and School procedures
Location	UBC Vancouver / hybrid, with regular research meetings scheduled by mutual agreement

How to Apply

Applicants should submit:

- a current CV;
- a brief statement describing their research interests and relevant experience; and
- a short description of their experience with programming, quantitative data analysis, learning analytics, machine learning, educational research, or related methods.

Please send application materials to fatemeh.salehiankia@ubc.ca with the subject line “GAA – Learning Analytics and Computational Learning Sciences” by September 24, 2026.

Only candidates selected for an interview will be contacted.