NSERC-CSE Research Communities Grants 2025

Sponsor

Natural Sciences and Engineering Research Council of Canada (NSERC) and the Communications Security Establishment (CSE)

For More Information

NSERC-CSE Research Communities Program Page [1]

CSE Hiring Process and Security [2]

CSE Student Program [3]

NSERC guide on integrating equity, diversity and inclusion considerations in research [4]

NSERC's Alliance Communications Team will be offering a series of informational presentations for university faculty members and researchers in September 2024. **Please register ahead of time** by clicking on the desired link below and then clicking the "Register" button on the Event page. When registering for a session, there will be an optional text box for advance questions.

French Session: Tuesday, September 17, 2024, 1:00 - 2:30pm ET (**Registration Link** [5])

English Session: Wednesday, September 18, 2024: 1:00 - 2:30pm ET (**Registration Link** [6])

Description

The Natural Sciences and Engineering Research Council of Canada (NSERC) and the Communications Security Establishment Canada (CSE) are partnering to fund Research Communities to conduct unclassified research on cutting-edge technologies in areas of strategic importance to CSE and the Government of Canada. A Research Community is defined as a group of researchers – and their research personnel (i.e., students, post-doctoral fellows, and research professionals) – from *multiple* Canadian universities working in related domains and sharing NSERC?CSE funds awarded to their project(s). **The focus of this funding call is on exploratory analysis for unstructured data. CSE is the sole partner organization; no additional partner organizations will be accepted.**

Objectives

- Advance research in fundamental algorithms and tools for exploratory analysis of large unstructured datasets.
- Develop a sustainable, open-source software ecosystem for exploratory analysis of large unstructured datasets.
- Grow and expand an interdisciplinary community that includes, for example, mathematicians, computer scientists, visualization, and computer interaction experts to work together on exploratory analysis of unstructured datasets.
- Establish Canada and Canadian Universities as leaders in unstructured data analysis.
- Support the development of highly qualified personnel working in the field of exploratory data analysis.

Context

Exploratory data analysis is crucial to gain insights into the data used to build a model. Effective data curation and data quality assessment — both essential prerequisites for robust data science and machine learning inquiry — require flexible methods for exploratory data analysis. For classical tabular data, the analysis can be achieved through various summary statistics and statistical visualizations. In the modern era of unstructured data, such as text, images, and other diverse data types, this approach to exploratory data analysis is insufficient. Fortunately, recent advances in vector representations of unstructured data offer a potential path forward.

Vector representations, combined with effective tools for search, clustering, and visualization, can provide an effective workflow for exploratory analysis of unstructured data. Much of the work in this area is new, and integrating different components into a cohesive workflow remains challenging. Through this grant, CSE is seeking new research and development in both the building blocks for tasks required to perform exploratory analysis of unstructured data and the integration of those tasks into an overarching workflow.

The techniques developed through this grant should be general and have the potential to work with many data types (e.g., text, image, audio, video, computer system log data, source code, compiled binaries). Moreover, CSE would like to foster the growth of an open-source software ecosystem implementing these techniques.

See the Program Page [1] for some of the key components that CSE envisions as crucial to an effective workflow for exploratory analysis of unstructured data. **Proposals that cover the interaction of several components or provide other holistic solutions to exploratory analysis will be favoured.**

CSE is seeking solutions to exploratory analysis of unstructured data that are both grounded in mathematical theory while also being practical on realistic data. Consequently, CSE's objective is the development of a new, novel, and interdisciplinary Research Community that includes, for example, teams composed of machine learning experts, software engineers, mathematicians and visualization and human-computer-interaction experts. **Applications with a clear plan to grow a broader, sustainable community of interest that will endure beyond the conclusion of the grant period will be of particular interest.**

Eligibility

Canadian university researchers must be eligible [7] to receive NSERC funds. CSE encourages researchers from multiple universities working in related domains to apply as a group to form a Research Community. However, **only one application per researcher** will be accepted under this call for proposals (as either applicant or co-applicant). CSE reserves the right to review and approve the list of Research Community members, including collaborators, prior to their engagement with the research team.

This Research Communities grant(s) will support **unclassified** research focusing on exploratory analysis for unstructured data. However, the funding is conditional on the applicant or one of the co-applicants and some of the Research Community members (i.e., professors, students, and post-doctoral fellows) travelling to Ottawa to conduct **classified** research at CSE throughout the grant period. See Special Notes below for details.

No changes may be made to the research team (applicant and co-applicants) once it has been reviewed and approved by NSERC and CSE at the LOI stage.

Funding Availability

Individual projects can request either $700,000 (small project) or $1,400,000 (large project) per year over four years from NSERC. Grant funding is provided in equal parts by NSERC and CSE. **The aim is to fund one large or two small projects per call.** The NSERC-CSE Research Communities grant(s) focused on exploratory analysis for unstructured data will be awarded in May 2025.

Indirect Costs

0%

Project Duration

4 years

Special Notes

Classified research

In collaboration with CSE researchers, the applicant, or one of the co-applicants, and some of the Research Community members will be required to work on classified research at CSE facilities in Ottawa.

Applicants must ensure that they can respect the following conditions, at the risk of having their LOI rejected or their grant terminated:

- When submitting the LOI, the applicant, or at least one of the co-applicants, must be a Canadian citizen, eligible for a TOP SECRET security clearance [2], and willing to work

in Ottawa at CSE for at minimum two weeks per year. The identified researcher(s) must maintain their security clearance for the entire grant period.

- Within one year of the grant award, the grant recipient must submit the names of additional Research Community members (i.e., professors, students and post-doctoral fellows) who are Canadian citizens, eligible for a TOP SECRET security clearance [2], and willing to work in Ottawa at CSE.
    - Students are welcome under CSE's Student Program and will be expected to complete at least one semester of work at CSE.
    - Post-doctoral fellows and professors are welcome through CSE's Interchange Program; the length of their visits will be variable.

Additional Details: Students working on classified research at CSE will be hired through CSE's Student Program [3]. Applicants, co-applicants, professors and post-doctoral fellows will be hired through CSE's Interchange Program. Under the Interchange Program, incoming participants (secondees) will remain employed by their home organizations (universities), to which CSE will reimburse salary costs. For more information, please contact alliance_cse-cst@nserc-crsng.gc.ca [8].

Deadlines

If College-level review is required, your College will communicate its earlier internal deadlines.

Type	Date	Notes
Internal Deadline	Wednesday, October 9, 2024 - 4:30pm	**Letter of Intent (LOI)** The Nominated Principal Investigator must submit their LOI (following the attached template) through NSERC's online system [9]. The LOI is mandatory to progress to the next stage. A complete, signed OR-5 form must also be submitted to research.services @uoguelph.ca. To discuss CARE-AI [10] considerations, consult with Kevin Matsui (kevin.matsui@uoguelph.ca [11]), Managing Director, CARE-AI, prior to submitting your letter of intent.
External Deadline	Wednesday, October 16, 2024 - 8:00pm	**Letter of Intent (LOI)**

Type	Date	Notes
		The Research Services Office will submit the completed LOI directly through NSERC's online system on behalf of the research team.
Internal Deadline	Wednesday, February 19, 2025 - 4:30pm	**Full Application (by invitation only)** Based on the review of the LOI, applicants may be invited to proceed with a full application. NSERC will send a letter of invitation to applicants, and only applications that have been invited to submit will be accepted. The letter of invitation will provide instructions on how to apply to this call under the Alliance grants program. Applicants must submit the Full Proposal in NSERC's online system [9] and notify research.services@uoguelph.ca [12]
External Deadline	Wednesday, February 26, 2025 - 8:00pm	**Full Application** The Research Services Office will submit the completed Full Application directly through NSERC's online system on behalf of the research team.

How to Apply

Step 1 – Letter of intent (LOI)

To engage CSE in supporting their research project, applicants must submit an LOI via NSERC's online system [9] using the LOI template [13].

The LOI must not exceed **four** pages, excluding references, and must:

- Describe the research team and identify the researcher(s) (applicant and/or co-applicant(s)) who are eligible for a TOP SECRET clearance. The research team must include researchers (co-applicants) from **multiple** Canadian universities. It is important to note that applicants who will be invited to submit a full application will not be allowed to make any changes to the research team (applicant and co-applicants) once it has been reviewed and approved by NSERC and CSE at the LOI stage.
- Outline the proposed research and explain how the project will respond to the specific research objectives of this call.
- Include a summary of the proposed research project's main objectives and challenges and the expected outcomes and benefits for Canada. Also, describe how the collaboration with CSE will have a positive impact on the proposed research.

In addition to a completed LOI template, applicants must provide the following documents and information to NSERC via the online system [9]:

- A preliminary budget (in Canadian dollars) and accompanying justification to cover the direct cost of the proposed research according to eligible expenses listed in the Tri-agency Guide on Financial Administration [14]. The total *Amount requested from NSERC* can be either $700,000 (small project) or $1,400,000 (large project) per year over four years. These amounts include CSE's contribution to the grant funding.
- A completed **and up-to-date** personal data form with CCV attachment [15] (NSERC form 100A) for the applicant and all co-applicants. The *Contributions to research and training* must be addressed in the three parts as per the instructions [16].

Instructions for submitting documents and information to NSERC:

- Log in to NSERC's online system [9] and select *Create a new form 101*
- Select Research partnerships programs, then *Alliance grants*
- For the Proposal type field, select *Letter of Intent*
- For the Type of call field, select *CSE – Research Communities* from the drop-down menu

NSERC will review eligibility requirements, including eligibility of the proposed expenses and eligibility of the applicant and the co-applicants to receive funds from NSERC under the Alliance grant program. The NSERC eligibility criteria for faculty [17] apply. CSE will review the LOI to determine which proposals meet the objectives of the call based on the following criteria:

- Novelty of the proposed research

- Alignment of the proposed research with the call
- Potential to create a new, novel, interdisciplinary and impactful Research Community
- Practical applicability of expected outcomes
- Collaboration with CSE

Step 2 – Full application (by invitation only)

Based on the review of the LOI, applicants may be invited to proceed with a full application. NSERC will send a letter of invitation to applicants and only applications that have been invited to submit will be accepted.

The letter of invitation will provide instructions on how to apply to this call under the Alliance grants program. Applicants invited to submit a full application will also receive a template to use for their proposal, as well as the established merit indicators that will be used to assess the merit evaluation criteria listed below. Full applications must be submitted via NSERC's online system [9].

Full applications will first undergo an administrative assessment by NSERC to ensure they are complete and comply with all requirements. Once the administrative assessment is satisfactorily completed, NSERC will conduct a merit assessment of the applications through an Evaluation Committee of external peer reviewers with expertise directly related to this call. The merit of the full applications will be assessed against the following four equally weighted evaluation criteria (more details available on the program website [18]).

1. **Relevance and expected outcomes**
2. **Proposal**
3. **Project team**
4. **Training plan**

Upon completion of the external peer review, NSERC will determine the merit of the proposal by applying merit indicators based on the assessment of the evaluation criteria by the Evaluation Committee and establish a list of fundable applications from which CSE will select the one(s) to be funded based on the following additional criteria:

- Alignment of the proposed research project with topic of the call, including practical applicability of expected outcomes
- Commitment to collaborate with CSE and alignment with CSE activities
- Potential to create a new, novel, interdisciplinary and impactful Research Community

NSERC and CSE aim to announce funding decisions by May 2025.

Information For Co-applicants

Only one application per researcher will be accepted under this call for proposals (as either applicant or co-applicant).

Attachment(s)

Attachment	Size
LOI Template [19]	252.76 KB

For Questions, please contact
For program questions for NSERC, please contact: alliance_cse-cst@nserc-crsng.gc.ca [8]

For CARE-AI considerations, please contact: kevin.matsui@uoguelph.ca [11]

Office of Research

Rachel Lee, Senior Grants and Contracts Specialist
Research Services Office
rachell@uoguelph.ca [20]
Alert Classifications**Category:**
Funding Opportunities and Sponsor News

Disciplines:
Health and Life Sciences
Information and Communications Technology
Physical Sciences and Engineering

Source URL:https://www.uoguelph.ca/research/alerts/content/nserc-cse-research-communities-grants-2025

Links
[1] https://www.nserc-crsng.gc.ca/Innovate-Innover/CSE-CST/CFP-ADP/EAUD-AEDNS/index_eng.asp
[2] https://www.cse-cst.gc.ca/en/careers/hiring-process-and-security
[3] https://www.cse-cst.gc.ca/en/careers/student-opportunities
[4] https://www.nserc-crsng.gc.ca/Innovate-Innover/alliance-alliance/EDI_training-EDI_formation_eng.asp
[5] https://events.teams.microsoft.com/event/54eaf58f-5bb3-491d-95af-dce436e9f5f5@fbef0798-20e3-4be7-bdc8-372032610f65
[6] https://events.teams.microsoft.com/event/8835ba3d-ee3b-448d-ae4d-b5c7a31cdbc6@fbef0798-20e3-4be7-bdc8-372032610f65
[7] https://www.nserc-crsng.gc.ca/NSERC-CRSNG/Eligibility-Admissibilite/faculty-corpsprof_eng.asp
[8] mailto:alliance_cse-cst@nserc-crsng.gc.ca
[9] https://ebiz.nserc.ca/nserc_web/nserc_login_e.htm
[10] https://www.care-ai.ca/
[11] mailto:kevin.matsui@uoguelph.ca
[12] mailto:research.services@uoguelph.ca
[13] https://www.nserc-crsng.gc.ca/Innovate-Innover/CSE-CST/CFP-ADP/EAUD-AEDNS/_doc/LOI-template-e.docx

[14] https://www.nserc-crsng.gc.ca/interagency-interorganismes/TAFA-AFTO/guide-guide_eng.asp
[15] https://www.nserc-crsng.gc.ca/OnlineServices-ServicesEnLigne/instructions/100/100A_eng.asp
[16] https://www.nserc-crsng.gc.ca/OnlineServices-ServicesEnLigne/instructions/100/100A_eng.asp#contributions
[17] https://www.nserc-crsng.gc.ca/NSERC-CRSNG/eligibility-admissibilite/faculty-corpsprof_eng.asp
[18] https://www.nserc-crsng.gc.ca/Innovate-Innover/CSE-CST/CFP-ADP/EAUD-AEDNS/index_eng.asp#a8
[19] https://www.uoguelph.ca/research/alerts/sites/default/files/attachments/LOI-template-e.docx
[20] mailto:rachell@uoguelph.ca