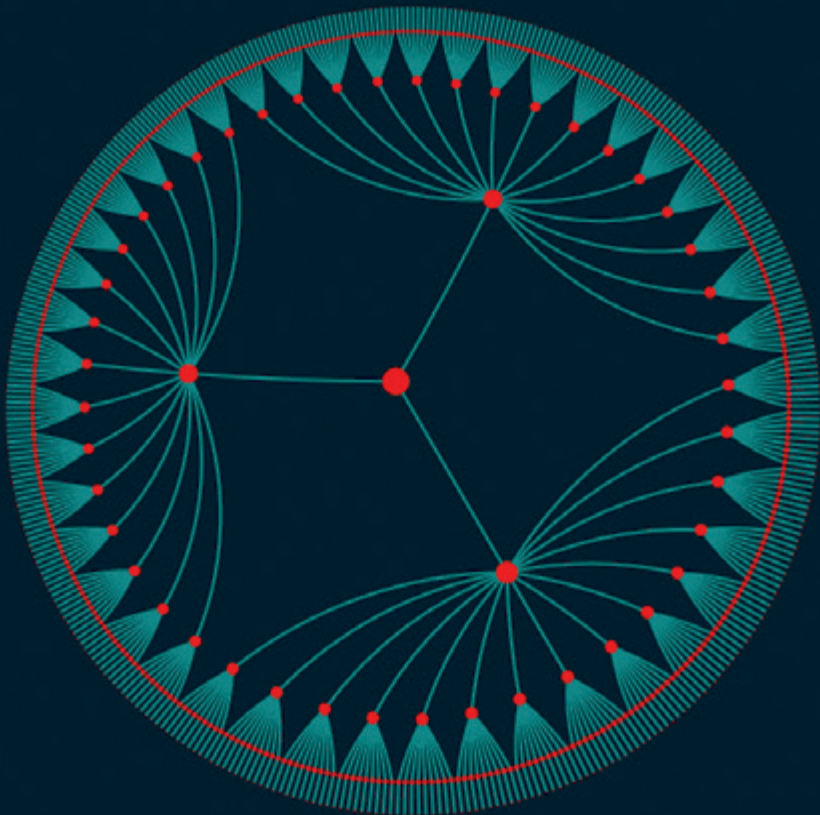


**NRC-CMRC**

# Technologies for Indigenous languages in Canada



Working with Indigenous communities and language experts to develop technologies that support language reclamation, revitalization and stabilization.



National Research  
Council Canada

Conseil national de  
recherches Canada

Canada 

In collaboration with Indigenous language experts, instructors, and communities, the National Research Council of Canada (NRC) is working on speech- and text-based technologies that contribute to the revitalization of Indigenous languages.



Researchers from the NRC's Indigenous Languages Technology Project are working together with partners to support them and their efforts on the future of Indigenous languages.

## Featured projects

### Verb conjugation software

Collaborators: Onkwawenna Kentyohkwa Mohawk-language immersion school (Western Mohawk), Kanien'kehá:ka Onkwawén:na Raotitíóhkwa Language and Cultural Center (Eastern Mohawk), Kitigan Zibi Cultural Centre (Algonquin), Prairies to Woodlands Indigenous Language Revitalization Circle (Michif)

- Most Indigenous languages in Canada are polysynthetic — making verb conjugation one of the hardest things to learn.
- Verb conjugation software has been developed for two dialects of Mohawk, as well as for Algonquin and Michif. One for Mi'kmaq is being prepared.

### ReadAlong Studio

Collaborators: Carleton University's School of Linguistics and Language Studies, Michael Running Wolf (Northeastern University)

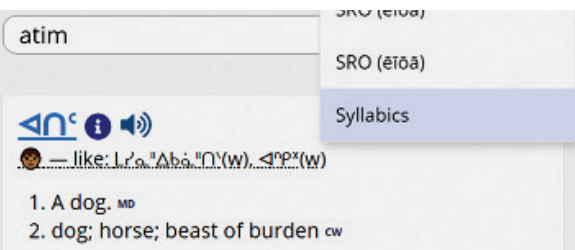
- The ReadAlong Studio software highlights words in Indigenous

books as they are being read aloud. Listeners can click on any word to hear it spoken again.

- Educators and students find this tool very helpful in the classroom and for independent learning. It's been applied to 22 languages, with more to come.







## Dictionaries

Collaborators: Prairies to Woodlands Indigenous Language Revitalization Circle, Turtle Mountain Community College, Carleton University's School of Linguistics and Language Studies, Alberta Language Technology Laboratory, Maskwacis Education Schools Commission, Cree Literacy Network, Dr. Marie-Odile Junker (Carleton University)

- Michif first-language speakers have contributed to a new spoken dictionary app and website, making an out-of-print Michif dictionary accessible to educators and students.
- A new interface for itwêwina, the intelligent Plains Cree dictionary that analyses and assists with word formation, is in development.
- A common digital infrastructure helped improve learning tools for Algonquian languages, including dictionaries and a linguistic atlas.

## What's next?

### Writing in Inuktitut

- We've recently created a suite of tools for writing in Inuktitut (morphological analyzer, dictionary, gister), which are at the user testing phase.

### Automatic Speech Recognition (ASR)

- Beginning with Inuktitut and Cree, then expanding to Innu, Dénésiline, Tsuut'ina, Michif and more, we're developing language labelling and speech segmentation tools to enable ASR.

### TTS technology

- In partnership with 3 Indigenous organizations, we will be working on a new project to develop text-to-speech (TTS) technology.

### Machine translation

- Our latest project, still in the research stage, is machine translation for English to Inuktitut and vice versa.



●●● **Contact**

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