

# Aidan Hart Ray Pine

[hello@aidanpine.ca](mailto:hello@aidanpine.ca)

## EDUCATION

---

### University of Edinburgh

Edinburgh, UK

*M.Sc. Speech & Language Processing*

*September 2020 - September 2021*

- Dissertation title: “Low Resource Speech Synthesis”
- Distinction (80% coursework average, 90% Dissertation grade)
- Saltire Scholarship (£8,000)

### University of British Columbia

Vancouver, BC

*B.A Honours Linguistics, Minor in First Nations’ Languages*

*September 2012 - April 2016*

- 4.21 GPA (90.2% Average)
- Sole recipient, Dean’s Leadership Award for Outstanding Academic Contributions to the Faculty of Arts
- 1st Place Oral Presentation at UBC Multidisciplinary Undergraduate Research Conference 2016

## EXPERIENCE

---

### Research Council Officer

January 2022 – present

*National Research Council Canada*

*Victoria, BC*

### Application Development Specialist

January 2018 – January 2022

*National Research Council Canada*

*Victoria, BC*

- NRC Digital Technology ‘Value for Canada’ Award - 2018
- NRC Intellectual Property Achievement Award - 2021

### Software Developer & DevOps Engineer

October 2016 – June 2020

*First Peoples’ Heritage and Language Council of Canada*

*Victoria, BC*

- Developed 18 digital dictionary apps for iOS and Android, custom approximate search algorithms and continuous deployment devops architecture with fastlane

### Software Developer

November 2016 – June 2019

*University of British Columbia*

*Vancouver, BC*

- Lead programmer for the development of four digital ‘talking’ dictionaries for web, iOS, and Android, including language-customized approximate search algorithms

### Software Developer

August 2016 – January 2017

*Simon Fraser University*

*Vancouver, BC*

- Lead developer for development of orthography conversion tools for Heiltsuk and Tsilhqot’in

### Computational Linguist

January 2016 - August 2017

*SmartKYC*

*Italy, Remote Work*

- Natural language processing for French and Danish

## COMMUNITY & LEADERSHIP

---

### Volunteer Developer

May 2016 – Present

*Various*

*Remote Work*

- Hesquiaht Dictionary project, Chuutsqa Layla Rorick, University of Victoria
- Squamish Dictionary project, Peter Jacobs, Simon Fraser University
- Inupiaq Dictionary project, Myles Creed, University of Victoria
- Designed and built Chrome OS keyboard for SENĆOTEN language

### Reviewer

2014 – Present

*Various*

*Remote Work*

- Native American and Indigenous Studies Journal (NAIS)
- Association of Computational Linguistics (ACL)
- ELRA Language Resources and Evaluation Conference (LREC)
- Stabilizing Indigenous Languages Symposium (SILS)
- The Use of Computational Methods in the Study of Endangered Languages Workshop (ComputEL)

## SELECTED PUBLICATIONS

---

- Pine, A.**, Littell, P., Joanis, E., Huggins-Daines, D., Cox, C., Davis, F., Santos, E., Srikanth, S., Torkornoo, D., Yu, S. *G<sub>2</sub>P<sub>i</sub>*: Rule-based, index-preserving grapheme-to-phoneme transformations. Proceedings of *ComputEL-5*. Dublin, Ireland. 2022b
- Pine, A.**, Wells, D., Brinklow, N., Littell, P., Richmond, K. Requirements and motivations of low-resource speech synthesis for language revitalization. Proceedings of *ACL 2022*. Dublin, Ireland. 2022a
- Brinklow, N., Littell, P., Lothian, D., **Pine, A.**, Souter, H. Indigenous Language Technologies & Language Reclamation in Canada. In proceedings of *International Conference Language Technologies for All (LT4All): Enabling Linguistic Diversity and Multilingualism Worldwide*. UNESCO. 2020
- Kazantseva, A., Maracle, B., Maracle, R., **Pine, A.** Kawennón:nis: the Wordmaker for Kanyen'kéha (Ojswéken Mohawk). In proceedings of *COLING: The 27th International Conference on Computational Linguistics* 2018
- Littell, P., **Pine, A.**, Davis, H. Waldayu and Waldayu Mobile: Modern digital dictionary interfaces for endangered languages. In proceedings of *ComputEL-2: The 2nd Workshop on Computational Methods for Endangered Languages*. 2017b
- Pine, A.**, Turin, M. Language Revitalization. *Oxford Encyclopedia of Linguistics*. Oxford University Press. 2017a

## SELECTED PRESENTATIONS

---

- Readalongs: Automatic alignment of speech and text for Indigenous language audiobooks** 2020
- Huggins-Daines, D., Littell, P., **Pine, A.**, Joanis, E.
  - 52nd Algonquian Conference. University of Wisconsin - Madison.
- How to Make a ‘Mother Tongues’ Digital Dictionary** 2019a
- **Pine, A.**, Turin, M.
  - ICLDC 6 Workshop. University of Hawaii.
- Supplementing text-based Indigenous language applications with synthetic speech.** 2019b
- **Pine, A.**, Kazantseva, A.
  - Ottawa AI. NRC Sussex.
- Canadian National Research Council’s Indigenous Language Technology Project** 2019c
- **Pine, A.**, Brinklow, N., Souter, H., Lothian, D.
  - International Conference on Language Technologies for All. UNESCO HQ, Paris.
- Developing Digital Tools for Language Revitalization: Demystifying Coding, Apps, and Web Platforms** 2018
- **Pine, A.**, Turin, M.
  - Invited workshop at the National Institute for Japanese Language and Linguistics. Tokyo.

## TECHNICAL SKILLS

---

**Languages:** Python, JavaScript, TypeScript  
**Web Development:** Angular, Flask, Django, StencilJS, FastAPI  
**Signal Processing:** Praat, Wavesurfer, NumPy, librosa  
**Design:** Photoshop, InDesign, L<sup>A</sup>T<sub>E</sub>X, Balsamiq  
**Speech Synthesis:** FastSpeech2, Tacotron2, PyTorch, Festival, Multisyn, Clustergen  
**Mobile Development:** iOS and Android development with Ionic, fastlane

## LANGUAGES

---

**Danish:** Advanced. Prøve i Dansk 3 Fluency Certificate.  
**French:** Advanced. Double Dogwood High School Diploma in English & French.  
**Gitksan:** Intermediate proficiency.  
**hə́n̓qə́m̓iṇ̓ə́m̓:** Intermediate. UBC FNLG 101, 102, 201, 202, & 301.  
**SENĆOTEN:** Beginner. UVic LING 159.  
**Nēhiyawēwin:** Beginner. UBC FLNG 111.