

Aidan Hart Ray Pine

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EDUCATION

University of Edinburgh

M.Sc. Speech & Language Processing

Edinburgh, UK

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

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

Vancouver, BC

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

National Research Council Canada

January 2022 – present

Victoria, BC

Application Development Specialist

National Research Council Canada

January 2018 – January 2022

Victoria, BC

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

Software Developer & DevOps Engineer

First Peoples’ Heritage and Language Council of Canada

October 2016 – June 2020

Victoria, BC

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

Software Developer

University of British Columbia

November 2016 – June 2019

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

Simon Fraser University

August 2016 – January 2017

Vancouver, BC

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

Computational Linguist

SmartKYC

January 2016 - August 2017

Italy, Remote Work

- Natural language processing for French and Danish

COMMUNITY & LEADERSHIP

Volunteer Developer

Various

May 2016 – Present

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 SENCOTEN language

Reviewer

Various

2014 – Present

Remote Work

- 2021 - present — Native American and Indigenous Studies (NAIS) Journal Reviewer
- 2018 - present — ACL Proceedings Reviewer
- 2014 - 2016 — UBC Indigenous Studies Undergraduate Journal Reviewer

SELECTED PUBLICATIONS

- Pine, A.**, Wells, D., Brinklow, N., Littell, P., Richmond, K. Requirements and motivations of low-resource speech synthesis for language revitalization. Submitted to proceedings of *ACL 2022*. Dublin, Ireland. 2022
- 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 (Ohsweken Mohawk). In proceedings of *COLING: The 27th International Conference on Computational Linguistics* 2018b
- Pine, A.**, Turin, M. Seeing the Heiltsuk Orthography from Font Encoding through to Unicode: A Case Study Using Convertextract. In proceedings of *CCURL 2018: The 3rd Workshop on Collaboration and Computing for Under-Resourced Languages*. European Language Resources Association. 2018a
- 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^AT_EX, 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.
ḥə́ŋqə́míŋə́m: Intermediate. UBC FNLG 101, 102, 201, 202, & 301.
SENĆOTEN: Beginner. UVic LING 159.
Nēhiyawēwin: Beginner. UBC FLNG 111.