

# Abner Hernandez

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## Computational Linguist

Recently graduated linguist with experience in natural language processing, speech recognition and machine learning methods for linguistics and speech science.

## EXPERIENCE

### 42Maru Inc (Contractor), Seoul – Data Linguist

Sept 2020 - PRESENT

**Tasks:** Help build datasets for training machine learning-based models. Text summarization of financial articles via doccano.

### Spoken Language Processing Lab, Seoul – Speech Researcher

Jan 2019 - Sept 2020

**Lab Director:** Dr. Minhwa Chung (정민화), Ph.D. in Electrical Engineering

**Project:** “Development of content creation and entertainment technologies based on intelligent tools to enhance accessibility of social communication disabilities.”

**Tasks:** Linguistic analysis of dysarthria. Improving dysarthric speech recognition. Develop machine learning-based classifiers for detecting dysarthria or assessing severity levels.

### Language and Brain Lab, Vancouver – Research Assistant

Aug 2015 - Jun 2017

**Lab Director:** Dr. Yue Wang, Ph.D. in Linguistics

**Tasks:** Data organization or extraction. Linguistics annotation or alignments. Experimental stimuli preparation.

## EDUCATION

### Seoul National University, South Korea – Master Linguistics

Sept 2018 - Aug 2020

**Focus:** Computational linguistics, speech recognition, dysarthric speech and phonetics.

**Thesis Title:** *Automatic Detection and Assessment of Dysarthric Speech using Prosody-Based Measures*

### Simon Fraser University, Canada – Bachelor Linguistics (Honours)

Sept 2013 - June 2017

**Focus:** phonetics, psycholinguistics and neurolinguistics. Also minored in psychology with a focus on cognitive science.

**Thesis Title:** *Late and Early Bilingual Perception of Korean Stop and Affricate Contrasts*

## PUBLICATIONS

- [1] Hernandez, A.; Kim, S.; Chung, M. Prosody-Based Measures for Automatic Severity Assessment of Dysarthric Speech. *Applied Sciences* 2020, 10, 6999. [\[LINK\]](#)
- [2] Hernandez, A.; Yeo, E.J.; Kim, S.H.; Chung, M.H. Dysarthria Detection and Severity Assessment using Rhythm-Based Metrics. In Proceedings of Interspeech. [\[LINK\]](#)
- [3] Hernandez, A.; Chung, M.H. Dysarthria Classification Using Acoustic Properties of Fricatives. In Proceedings of the Seoul International Conference on Speech Sciences (SICSS), Seoul, Korea, 15–16 November 2019; pp. 43–44. [\[LINK\]](#)
- [4] Hernandez, A.; Lee, H.Y.; Chung, M.H. Acoustic analysis of fricatives in dysarthric speakers with cerebral palsy. *Phonetics and Speech Sciences* 2019, 11, 23–29. [\[LINK\]](#)

## SKILLS

**Languages:** Python, R

**Libraries:** Pytorch,  
TensorFlow,  
Scikit-learn

**Other:** Praat, Kaldi

## LINKS

[LinkedIn](#)

[GitHub](#)

[Research Gate](#)

[Personal Website](#)

## LANGUAGES

English, Spanish,  
Korean