

Roger Yu-Hsiang Lo

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EDUCATION

U OF BRITISH COLUMBIA

PHD IN LINGUISTICS

Jun 2022 | Vancouver, BC

LEIDEN UNIVERSITY

MA IN LINGUISTICS

Aug 2016 | Leiden, The Netherlands

Cum Laude

NATIONAL TAIWAN U

BSc IN CHEMISTRY

MINOR IN LINGUISTICS

Jun 2013 | Taipei, Taiwan

GPA: 3.79 / 4.0

COURSEWORK

GRADUATE

Computational Linguistics
 Computational Morphology
 Syntactic Theory and Analysis
 Semantic Theory and Analysis
 Phonological Theory and Analysis
 Phonetic Theory and Analysis
 Advanced Machine Learning
 Exploratory Data Analysis
 Bayesian Analysis and Decision Theory
 Information Visualization

UNDERGRADUATE

Machine Learning and Data Mining
 Methods for Statistical Learning
 Software Construction
 Basic Algorithm and Data Structures
 Intermediate Algorithm and Data Structures
 Numerical Computation for Algebraic Problems
 Introduction to Relational Databases
 Introduction to Computer Systems

SKILLS

PROGRAMMING

Python (PyTorch, scikit-learn, NumPy, SciPy) • R • Javascript • Julia • Java • Stan • C • C++ • SQL • Linux • Git

LANGUAGES

Mandarin: native
 English: fluent (IELTS: 8.5 / 9)
 Dutch: intermediate
 Japanese: intermediate

EXPERIENCE

UNIVERSITY OF BRITISH COLUMBIA | TEACHING ASSISTANT

Sep 2019 – May 2020 | Sep 2021 – May 2022 | Vancouver, BC

- Supported teaching for the *Master of Data Science in Computational Linguistics* program: *Computational Morphology, Computational Semantics, Corpus Linguistics, NLP for Low-Resource Languages, Sentiment Analysis, Syntactic Parsing*.
- Guided 30+ each year students in weekly programming lab assignments.

UBC PUBLIC SCHOLAR INITIATIVE | SCHOLAR

Sep 2020 – Aug 2021 | Vancouver, BC

- Contributed to **Sign Language Phonetic Annotator/Analyzer**, a GUI-based open-source software system for the form-based transcription and analysis of signs.

DATA SCIENCE FOR SOCIAL GOOD | FELLOW

May 2020 – Aug 2020 | Vancouver, BC

- Processed traffic and demographic data from censuses and local governments with R and Python.
- Ran various statistical models, such as Gaussian Markov random fields and generalized additive models.
- Developed a **web-based traffic visualization tool** for the City of Surrey with R Shiny.

PROJECTS

XLING CORPUS Sep 2020 – Present

Worked with **Prof. Márton Sóskuthy** to create a **Laravel-based website**, a web interface for collecting speech from speakers of various languages. Annotated, forced-aligned, and analyzed speech data with Praat, Python, and R.

PHONOLOGICAL CORPUSTOOLS Sep 2016 - August 2021

Worked with **Stanley Nam** and **Prof. Kathleen Currie Hall** to improve functionality of **Phonological CorpusTools**, an open-source software tool written in Python for various phonological analyses on transcribed corpora.

GRAPHEME-TO-PHONEME CONVERSION April 2021 – May 2021

Partnered with **Garrett Nicolai** to develop an LSTM-based sequence-to-sequence model that won the first place in the SIGMORPHON 2021 Grapheme-to-Phoneme Shared Task in the low-resource setting.

SELECTED PUBLICATIONS

- [1] K. C. Hall, J. S. Mackie, and R. Y.-H. Lo. Managing and analyzing data with Phonological CorpusTools. In *The open handbook of linguistic data management*, pages 575–587. MIT Press, Cambridge, MA, 2022.
- [2] R. Y.-H. Lo and K. C. Hall. SLP-AA: Tools for sign language phonetic and phonological research. In *Proceedings of Interspeech*, pages 3679–3680, 2019.
- [3] R. Y.-H. Lo and G. Nicolai. Linguistic knowledge in multilingual grapheme-to-phoneme conversion. In *Proceedings of the Seventeenth SIGMORPHON Workshop on Computational Research in Phonetics, Phonology, and Morphology*, pages 131–140, 2021.