HUANG Po-Hsuan

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ACADEMICS

2020 ~ 2023	**National Taiwan University**	GPA 4.15/4.3
	MA in Linguistics	
2015 ~ 2020	**National Chengchi University**	GPA 4.0/4.3
	BA in **English**	
	European Languages and Literature	
	• Focus on French Language and Literature	

RESEARCH EXPERIENCE

Laboratory of Speech Behavior and Sciences (PI: Dr. Chenhao Chiu)	**Graduate Institute of Linguistics** **National Taiwan University**
Lab Member & Research Assistant	July, 2021 ~

Notable projects

High/low vowel differences in laryngeal height and EGG amplitude for different tones

- Supervised lab interns on experiment design, experiment conduction, and analyses.
- Developed pipelines for data analysis and visualization for multi-channel data.
- Quickly learned novel statistical analyses, including canonical correlation analysis (CCA).

Lip postures of Taiwan Mandarin High vowels

- Developed automated face recognition for linguistic purposes with MediaPipe.
- Designed automated lip landmark tracing for side faces with cluster analysis.

Prof. Hsuan-Lei Shao	**Graduate Institute of Political Science** **National Taiwan Normal University**
Research Assistant	August, 2023 ~

Projects

Legal judgment similarity computation

- Devised a novel similarity computation based on graph analysis of textual data.
- Overcame the lack of prior-case citations in the continental law system.

Legal term extraction based on unsupervised word segmentation in Mandarin

- Trained RNN-based auto-segmentation model in combination with bi-gram mutual information.
- Came up with unsupervised methods that saved the intensive labeling work.

Prof. Te-Hsin Liu

Graduate Program of Teaching Chinese as a Second Language
National Taiwan University
July, 2021 ~ October, 2022

Research Assistant
Project
Interaction between L1 Transfer and Universal Constraints for French-speaking Mandarin L2 learners
- Conducted a thorough literature review for weekly seminars
- Devised and conducted suitable statistical analyses for the corpus data

Course Projects
Ultrasonic-and-optical-imaging-assisted automated speech correctness judgment model

Data Analysis and Machine Learning with Python
Lecturer: Prof. Tommy C.Y. Ho
Fall semester, 2023

- Conducted a thorough literature review on unfamiliar areas and found research gaps
- Applied newly learned knowledge and skills to existing expertise; integrated distinct fields with linguistics
- Designed a sophisticated neural network structure that combines two different forms of data

Word2vec embedding for ill-formed documents in Taiwan Mandarin

Special Topics on Text Mining and Natural Language Processing
Lecturer: Prof. Hsuan-Lei Shao
Fall semester, 2023

- Quickly self-taught word-embedding-related techniques
- Conducted a thorough literature review on unfamiliar areas and found research gaps
- Built word similarity networks for graph analyses

TEACHING EXPERIENCE

Technology of Brain Science Lecturers: Prof. Joshua G.O. Soo & Prof. Chia-Lin Lee	**Graduate Institute of Brain and Mind Sciences,** **National Taiwan University** Spring semester, 2023

Teaching Assistant
- Supervised students' term project progress
- Aided students with coding problems
- Evaluated and graded students

Discovering Languages Lecturer: Prof. Chenhao Chiu Teaching Assistant	**Graduate Institute of Linguistics,** **National Taiwan University** Spring semester, 2023 Spring semester, 2022

- Supervised students' term project progress
- Aided students with coding problems
- Designed pop-up quizzes and mid-term exams
- Supervised and led student's discussions in weekly tutorials
- Evaluated and graded students

Freshman English	**Department of Foreign**
Lecturer: Prof. Wen-Hsien Hsu	**Languages and Literatures,**
	National Taiwan University
Teaching Assistant	Spring semester, 2021
	Fall semester, 2020

- Gave oral presentation tutorials and example presentations
- Supervised student's mid-term and final presentations
- Evaluated and graded students

PUBLICATIONS

Journal Articles

Huang, Po-Hsuan and Her, One-Soon. 2023. On a dichotomy of question types: The case of Paiwan. Concentric: Studies in Linguistics. To appear.

Selected Conference Articles

Huang, Po-Hsuan and Shao, Hsuan-Lei. 2023, November, 6–9. Comparison between the structures of word co-occurrence and word similarity networks for ill-formed and well-formed texts in Taiwan Mandarin. International Workshop on Mining and Analyzing Social Networks for Decision Support (MSNDS). Kusadasi, Turkey.

Huang, Po-Hsuan and Liu, Yi-Chen. 2023, October 21. Ultrasonic-and-optical-imaging-assisted automated speech correctness judgment model. Tunghai International Conference on Second Language Teaching and Research (SLTR.THU). Taichung, Taiwan.

Chiu, Chenhao and Huang, Po-Hsuan. 2023, August 7–11. Lip postures of high vowels in Taiwan Mandarin. International Congress of Phonetic Sciences (ICPhS). Prague, Czech.

Huang, Po-Hsuan and Chiu, Chenhao. 2023, August 7–11. Perception of coarticulated tones in Taiwan Mandarin and Taiwan Southern Min. International Congress of Phonetic Sciences (ICPhS). Prague, Czech. [Poster]

Huang, Po-Hsuan and Chiu, Chenhao. 2023, May 26–27. Tonal coarticulation in Taiwan Mandarin and Taiwan Southern Min. Hanyang International Symposium on Phonetics and Cognitive Sciences of Language 2023. Soeul, Korea. [Poster]

Huang, Po-Hsuan and Chiu, Chenhao. 2022, November 3–4. Articulation and syllabic affiliation of prenuclear glide in Taiwan Mandarin. Ultrafest X: Conference on Ultrasound Imaging for Speech and Language Research. Manchester, United Kingdom.

Huang, Po-Hsuan, Lai, Jing-Hong and Liu, Te-Hsin. 2022, September 23–25. On the interaction between L1 Transfer and universal constraints – Evidence from the acquisition of Mandarin tones by French speakers. North American Conference on Chinese Linguistics (NACCL). Bloomington, IN, United States.

Huang, Po-Hsuan and Chiu, Chenhao. 2022, January 6–9. Vowel-glide distinction in high vocoid diphthong structures in Squliq Atayal: An ultrasound and acoustic study. Annual Meeting of the Linguistic Society of America (AML). Washington, DC, United States. [Poster]

Huang, Po-Hsuan. 2021, October, 23. Vowel–glide distinction in high vocoid diphthong structures in Squliq Atayal: An ultrasound and acoustic study. National Conference on Linguistics (NCL). Taipei, Taiwan.

Huang, Po-Hsuan and Her, One-Soon. 2021, October 15–16. On a two-way distinction of questions in Paiwan. Young Scholars' Symposium on Taiwan Languages (YSSTL), online.

SERVICE & ACTIVITIES

Organizer, Education Camp for Rural Schools, NCCU	August, 2017

Vice organizer, Education Camp for Rural Schools, NCCU	January, 2017
Leading actor of NCCU, Concours universtaire national de théâtre, Taiwan	May, 2017
Project manager, Education Camp for Rural Schools, NCCU	August, 2016
Voluntary after-school tutor, Wanhsing Elementary School, Taipei	Spring semester, 2016

SKILLS & KNOWLEDGE

Languages: Mandarin; Southern Min; English; French; basic Spanish

Programming languages/software: Python; R; Javascript; Praat Script, basic Matlab; Psychopy

Packages/modules:

- Data analyses: numpy; scikit-learn; statsmodels; pandas
- Visualization: matplotlib; seaborn; plotly
- Image processing: OpenCV; MediaPipe
- Acoustic analyses: parselmouth; wave

Statistical analyses: fundamental analyses (e.g., t-test, ANOVA); dimensionality reduction (including PCA, LDA, etc.); regression/modeling (including linear/logistic regression, LMM, GLM, GAMM, etc.), cluster analysis (hierarchical; K-Means),

Machine learning: linear/logistic regression; SVM; decision tree; random forest; KNN; basic understanding of/experience in neural networks (including CNN, spatial-transformer network, RNN, etc.)