



Si-ioi NG

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EDUCATION

2018 – 2023

Ph. D in Electronic Engineering, The Chinese University of Hong Kong

- **Supervisor:** Prof. Tan Lee
- **Thesis:**
Automatic Detection of Speech Sound Disorder in Cantonese-Speaking Pre-school Children
- **Research Interests:**
 - Automatic detection/assessment of pathological speech
 - Speech under physical stress
 - Speech corpus development
- **Skills:** Kaldi, HuggingFace, ESPnet, Python, PyTorch, Praat, Linux

2014 – 2018

B.Eng in Electronic Engineering, The Chinese University of Hong Kong

2008 – 2014

High School Diploma, Escola Secundária Pui Ching (Macau)

EXPERIENCE

2023 - present

Postdoctoral Scholar, Arizona State University

- **Supervisor:** Prof. Visar Berisha
- **Research topics:**
 - Interpretable clinical speech analytics
 - Automatic assessment of hypernasality and precision of articulation

2018 – 2023

Research & Teaching Assistant, CUHK

- Mentor 4 B.Eng & 1 M.Sc Theses. Topics include:
 - Speech recognition and synthesis for electrolarynx speakers.
 - Speech emotion recognition
- Taught courses:
 - Signal and Systems
 - Digital Circuits and Computing Systems
 - Electronic Product Design and Development
 - STEM Educational Events in Secondary Schools

2018 - 2023

Senior Residential Tutor, CUHK

- Assist in administrative duties and organize student events.

2017 Summer

Undergraduate Research Internship, CUHK

- Collect child speech data. Annotate Aphasic speech data.
- Develop speech recognition systems for children using Kaldi.

PUBLICATIONS

([†] equal contribution)

Interspeech 2023

S.-I. Ng, C.W.Y. Ng, T. Lee,
"A Study on Using Duration and Formant Features in Automatic Detection of Speech Sound Disorder in Children"

IEEE Trans. on ASLP,
Under Review

S.-I. Ng, C.W.Y. Ng, J. Wang, T. Lee,
"Automatic Detection of Speech Sound Disorder in Cantonese-Speaking Pre-school Children"

ICPLA 2023 (Abstract)	C.W.Y. Ng, S.-I. Ng , K.Y.S. Lee, T. Lee, M.C.F. Tong, Exploring the use of speech recognition technology in detecting children speech sound disorders: A cross-disciplinary collaboration
INTERSPEECH 2022	S.-I. Ng , C.W.Y. Ng, J. Wang, T. Lee, Automatic Detection of Speech Sound Disorder in Child Speech Using Posterior-based Speaker Representations
Int. J. Environ. Res. Public Health	R.S. Ma, S.-I. Ng , T. Lee, Y.J. Yang, R.K.W. Sum Validation of A Speech Database for Assessing College Students' Physical Competence Under The Concept of Physical Literacy
Speech Prosody 2022	S.-I. Ng , R.S. Ma, T. Lee, R.K.W. Sum Acoustical Analysis of Speech Under Physical Stress in Relation to Physical Activities and Physical Literacy
NCMMSC 2021 Alzheimer's Disease Recognition Challenge	Y. Qin, W. Liu, Z. Peng, S.-I. Ng , J. Li, H. Hu, T. Lee, Exploiting Pre-Trained ASR Models for Alzheimer's Disease Recognition Through Spontaneous Speech
ASRU 2021	J. Li, S.-I. Ng , T. Lee, Improving Text-independent Speaker Verification with Auxiliary Speakers Using Graph
INTERSPEECH 2021	S.-I. Ng , C.W.Y. Ng, J. Li, T. Lee, Detection of Consonant Errors in Disordered Speech Based on Consonant-Vowel Segment Embedding
SLT 2021 Children Speech ASR Challenge	S.-I. Ng [†] , W. Liu [†] , Z. Peng, S. Feng, H.P. Huang, O. Scharenborg, T. Lee, The CUHK-TUDELFT System for The SLT 2021 Children Speech Recognition Challenge
INTERSPEECH 2020 Best Student Paper Finalist	S.-I. Ng , T. Lee, Automatic Detection of Phonological Errors in Child Speech Using Siamese Recurrent Autoencoder
INTERSPEECH 2020	S.-I. Ng [†] , C.W.Y. Ng [†] , J. Wang, T. Lee, K.Y.S. Lee, M.C.F. Tong, CUCILD: A Large-Scale Cantonese Corpus of Child Speech for Phonology and Articulation Assessment
ISCSLP 2018 Show & Tell	S.-I. Ng , D. Tao, J. Wang, Y. Jiang, W. Y. Ng and T. Lee, An Automated Assessment Tool for Child Speech Disorders
ISCSLP 2018	J. Wang, S. I. Ng , D. Tao, W. Y. Ng and T. Lee, A Study on Acoustic Modeling for Child Speech Based on Multi-Task Learning
Pre-print on arXiv	S.-I. Ng , T. Lee, Data Augmentation with Locally Time-Reversed Speech for ASR Training

HONOURS

Scholarship	<ul style="list-style-type: none"> • Talent Development Scholarship, HKD \$10,000, Hong Kong SAR Government • Scholarship for M.Phil-Ph.D Study, MOP \$210,000, Macau SAR Government • Postgraduate Studentship, CUHK • Charles Kao Scholarship, Department of Electronic Engineering, CUHK • Department Scholarship, Shaw College, CUHK • Electronic Engineering Scholarship, HKD \$10,000, CUHK • Scholarship for Undergraduate Study, MOP \$180,000, Macau SAR Government
Grants and Awards	<ul style="list-style-type: none"> • Travel Grant, INTERSPEECH, Shanghai, 2020 • Third Prize, National Challenge Cup of Science And Technology, 2019 • Gold Prize, HKD \$30,000, HKEIA Innovation & Technology Competition Award, 2018 • First Prize and Designated Award, HKD \$20,000, Hong Kong University Student Innovation and Entrepreneurship Competition, 2018 • College Head's List, SHAW College, CUHK

MISCELLANEOUS

Classical music

Cellist (Alumnus) – Macau Youth Symphony Orchestra

- Toured and performed in Brisbane, Delaware, Florence, New York, Marseille, Melbourne, Paris, Sydney, Washington DC, etc.

Certificate

Diploma of The Associated Board of the Royal Schools of Music in Music Performance (DipABRSM, Instrument: Cello)