MUN, Jihyun

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RESEARCH INTERESTS

Atypical / Disordered speech analysis

Spoken language processing technology for atypical speech

Natural language processing technology

Acoustic analysis, Phonetic analysis, Phonemic analysis, Linguistic analysis

EDUCATION

Integrated M.A./Ph.D., Linguistics, Seoul National University — Mar 2021 – Aug 2025 (Expected)

B.A., Mechanical Engineering, B.A., Linguistics, Seoul National University — Mar 2015 – Feb 2021

Anyang Foreign Language High School (Chinese major) — Mar 2012 – Feb 2015

PUBLICATIONS

CONFERENCES

Mun, J., Kim, S., Chung, M. (2024). Developing an End-to-End Framework for Predicting the Social Communication Severity Scores of Children with Autism Spectrum Disorder. Accepted to Interspeech 2024.

Lee, S., **Mun, J.,** Kim, S., Park, H., Yang, S., Kim, H., Noh, S., Kim, W., & Chung, M. (2024). Automatic Speech Recognition and Assessment Systems Incorporated into Digital Therapeutics for Children with Autism Spectrum Disorder. Accepted to ICCHP 2024.

Lee, S., **Mun, J.,** Kim, S., & Chung, M. (2024). Speech Corpus for Korean Children with Autism Spectrum Disorder: Towards Automatic Assessment Systems. Accepted to LREC-Coling 2024.

Mun, J., Kim, S., Kim, M. J., Ryu, J., Kim, S., & Chung, M. (2023). An Analysis of Glottal Features of Chronic Kidney Disease Speech and Its Application to CKD Detection. Proc. Interspeech 2023.

Mun, J., Kim, S., Kim, M. J., Ryu, J., Kim, S., & Chung, M. (2022). A speech corpus for chronic kidney disease. Proc. Oriental COCOSDA 2022.

JOURNALS

Mun, J., Kim, S., Kim, M. J., Ryu, J., Kim, S., & Chung, M. (2022). Automatic detection and severity prediction of chronic kidney disease using machine learning classifiers. Phonetics and Speech Sciences, 14(4), 45-56.

Mun, J., Kim, S., & Chung, M. (2021). Acoustic analysis of Korean affricates produced by dysarthric speakers with cerebral palsy. Phonetics and Speech Sciences, 13(2), 45-55.

IN PREPARATION

Mun, J., Kim, S., & Chung, M.. Automatic Detection and Severity Classification of Chronic Kidney Disease Speech Using Data Augmentation and Grad-CAM++ Linguistic Analysis.

Mun, J., Kim, S., & Chung, M.. Predicting Social Communication Severity in Children with Autism Spectrum Disorder Using Chain-of-Thought Reasoning.

Mun, J., Kim, S., & Chung, M.. Acoustic Analysis of Chronic Kidney Disease Speech and Automatic Diagnosis.

Mun, J., Kim, S., & Chung, M.. Automatic Speech Recognition for Dysarthric Speech Using Discrete Speech Units.

PROJECTS

Development of Digital Therapeutics to Improve Communication Skills of Autistic Patients — 2022.09-

Funded by the Korean Institute for Information & Communication Technology Planning & Evaluation.

Developed an automatic speech recognition system and automatic social communication severity classification system for children with autism.

Construction of a Cohort through Voice Banking of Chronic Kidney Disease Patients and Analysis of Voice Characteristics according to Renal Function — 2022.03-2024.02

Funded by the Seoul National University Bundang Hospital.

Designed a speech corpus of chronic kidney disease patients, analyzed speech characteristics of chronic kidney disease patients, and developed an automatic detection and severity classification system for chronic kidney disease patients.

Acquiring and Utilizing Audio Big Data for Healthcare Service Design — 2021.03-2023.12

Funded by the Korean Ministry of Science and ICT.

Designed a speech corpus of chronic kidney disease patients, analyzed speech characteristics of chronic kidney disease patients, and developed an automatic detection and severity classification system for chronic kidney disease patients.

Korean Speech Data for Western and Asian Language Users for Language Education — 2022.09-2022.11

Funded by the Korean National Information Society Agency.

Developed an automatic phonetic transcription toolkit.

Multilingual Speech Data Collection for L2 Korean Learners 2022.07-2022.11

Funded by the Korean National Information Society Agency.

Developed an automatic phonetic transcription toolkit for L2 Korean speech.

Development of Intelligent Tool-based Content Production and Enjoyment Support Technology Considering the Accessibility of the Weak in Social Communication 2021.03-2021.12

Funded by the Korean National Information Society Agency.

Developed an automatic speech recognition system for children with autism.

GRANTS

Subsequent generations of basic studies, Seoul National University Spring – Fall 2024

Travel Grant, College of Humanities, Seoul National University LREC-Coling 2024

Travel Grant, College of Humanities, Seoul National University Interspeech 2023

Subsequent generations of basic studies, Seoul National University Spring – Fall 2023

Son Joo-eun, Creative Talent Scholarship Student, Seoul National University Fall 2022

INTERNSHIP

2019 Summer Internship in R&D Department, College of Engineering, Seoul National University & Hyundai Motors Group

LANGUAGES

Korean (native), English (Fluent), Chinese (reading), German (reading), Japanese (reading)