

Woongjib Choi

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RESEARCH INTERESTS

Digital Signal Processing, Speech Signal Processing, Audio Compression, Audio Generation, Generative Models

EDUCATION

Yonsei University Mar. 2024 – Feb. 2026 (Expected)
M.S. in Electrical and Electronic Engineering (Advisor: Prof. Hong-Goo Kang) Seoul, South Korea

Yonsei University Mar. 2018 – Feb. 2024
B.S. in Electrical and Electronic Engineering Seoul, South Korea
• GPA: 4.0 / 4.5

EXPERIENCE

Teaching Assistant Mar. 2024 – Jun. 2025
Yonsei University, DSPAI Lab Seoul, South Korea

- **EEE2111: Analog Electronics Lab** (2025-1)
- **EEE2060: Signals and Systems** (2024-2)
- **EEE4610: Electrical and Electronic Engineering Capstone Design** (2024-2)
 - * Advised undergraduate capstone project: *Unified Speech Enhancement: Bridging Personalized and Unconditional Model*
- **EEE4420: Digital Signal Processing** (2024-1)

Undergraduate Research Intern Jun. 2023 – Jan. 2024
Yonsei University, SRIP Lab (Supervisor: Prof. Moon Gi Kang) Seoul, South Korea
• Implemented and analyzed image processing algorithms: white balancing, denoising, color interpolation (demosaicing), and super-resolution.

PUBLICATIONS

International Conferences

- [1] **Woongjib Choi**, Sangmin Lee, Hyungseob Lim, and Hong-Goo Kang, "UniverSR: Unified and Versatile Audio Super-Resolution via Vocoder-Free Flow Matching." *Submitted to ICASSP 2026*.
- [2] Jaehun Shin, **Woongjib Choi**, Jihyun Lee, Hyungseob Lim, Inseon Jang, and Hong-Goo Kang, "Neural Joint Stereo Coding for High Spatial Fidelity via Explicit Binaural Cue Loss Functions." *Submitted to ICASSP 2026*.
- [3] Sangmin Lee, **Woongjib Choi**, Jihyun Kiom, and Hong-Goo Kang, "SAGE-LD: Towards Scalable and Generalizable End-to-End Language Diarization via Simulated Data Augmentation." *Submitted to ICASSP 2026*.
- [4] **Woongjib Choi**, Byeong Hyeon Kim, Hyungseob Lim, Inseon Jang, and Hong-Goo Kang, "Neural Spectral Band Generation for Audio Coding." in *Proceedings of INTERSPEECH*, 2025.

Domestic Conferences

- [1] Jaehoon Shin, **Woongjib Choi**, Byeong Hyeon Kim, Inseon Jang, and Hong-Goo Kang, "DNN-based Speech Codec Enhancement Utilizing Conditional Flow Matching." in *Proceedings of the Korean Institute of Broadcast and Media Engineers (KIBME) Conference*, 2024.
- [2] **Woongjib Choi**, Byeong Hyeon Kim, and Hong-Goo Kang, "Non-Blind Speech Bandwidth Extension Using Pre-Trained Self-Supervised Features." in *Proceedings of the Institute of Electronics and Information Engineers (IEIE) Conference*, 2024.

PROJECTS

- Context-Aware Time-Scale Modification (TSM) with LLM Guidance** Dec. 2024
- Final project for the *Speech Signal Processing* course (EEE5340).
 - Developed a TSM system that combines the traditional SOLA algorithm with an LLM to selectively control speech speed in important frames.
- LAUD: Large Language Model as a Universal ASR Decoder** Jun. 2024
- Final project for the *Speech Interface* course (EEE7341).
 - Developed a multilingual ASR framework that utilizes a speech foundation model with the Roman alphabet as a universal intermediate representation.
- A Technical Overview of Deep Learning Based Single-Image Super-Resolution Methods** Dec. 2023
- Undergraduate Capstone Project (EEE4610).
 - Investigated and compared three major categories on single-image super-resolution: external learning-based (e.g., SRGAN), internal learning-based (e.g., ZSSR), and Transformer-based approaches (e.g., SwinIR).

AWARDS & HONORS

- Dean's List** Spring 2023
Yonsei University Seoul, South Korea
- Awarded for high academic achievement, ranking within the top 3% of the college.
- Academic Excellence Scholarship** 2023
Yonsei University Seoul, South Korea
- Recipient for both the Spring 2023 and Fall 2023 semesters based on academic excellence.

SKILLS

Programming Languages: Python, MATLAB, C, Verilog

Frameworks & Tools: PyTorch, Linux Shell

EXTRACURRICULAR ACTIVITIES

- Editor-in-Chief** Mar. 2022 – Jun. 2023
Humans of Yonsei (Student Storytelling and Interview Organization) Seoul, South Korea
- Sergeant, Republic of Korea Army** Apr. 2020 – Oct. 2021
Repair Parts and Tool Supply Specialist (Mandatory Military Service) Pocheon, South Korea
- Freshman Class Representative** Mar. 2018 – Sep. 2018
Department of Electrical & Electronic Engineering, Yonsei University Seoul, South Korea