

# Sunwoo Kim

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## Summary

PhD student in Intelligent Systems Engineering track in Informatics, Computing, and Engineering at Indiana University Bloomington. Working in SAIGE lab under Professor Minje Kim. Undergraduate studies in Physics with a minor in Computer Science.

Passionate about machine learning and deep learning solutions for audio signal processing challenges. My focus lies in studying and modifying machine learning algorithms to solve problems in a more efficient manner.

## Work Experience

### Amazon Lab126

APPLIED SCIENTIST INTERN

- Personalized speech dereverberation

Sunnyvale, CA (Remote)

Jun. 2021 - Sep 2021

### Amazon Lab126

APPLIED SCIENTIST INTERN

- Model compression for speech enhancement

Sunnyvale, CA (Remote)

May. 2020 - Aug 2020

### Qualcomm

INTERIM ENGINEERING INTERN

- Non-linear echo cancellation

San Diego, CA

May. 2019 - Aug 2019

### National Center for Supercomputing Applications

CYBERGIS SPIN INTERN

- Parallel Terrain Analysis and predictive ecosystem mapping

Urbana, IL

May. 2015 - May 2016

## Publications

### Test-Time Adaptation Toward Personalized Speech Enhancement: Zero-Shot Learning with Knowledge Distillation

SUNWOO KIM, MINJE KIM

IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA)

New Paltz, NY

Oct 17-20, 2021

### Personalized Speech Enhancement through Self-Supervised Data Augmentation and Purification

ASWIN SIVARAMAN, SUNWOO KIM, MINJE KIM

Interspeech

Brno, Czech Republic (Remote)

Aug 30 - Sep 3, 2021

### Boosted Locality Sensitive Hashing: Discriminative Binary Codes For Source Separation

SUNWOO KIM, HAICI YANG, MINJE KIM (NOMINATED FOR THE BEST STUDENT PAPER AWARD)

International Conference on Acoustics, Speech, and Signal Processing (ICASSP)

Barcelon, Spain (Remote)

May 4-8, 2020

### Incremental Binarization On Recurrent Neural Networks For Single-Channel Source Separation

SUNWOO KIM, MRINMOY MAITY, MINJE KIM

International Conference on Acoustics, Speech, and Signal Processing (ICASSP)

Brighton, UK

May 12-17, 2019

## Education

### Indiana University

PH.D. CANDIDATE IN INTELLIGENT SYSTEMS ENGINEERING

Advised by professor Minje Kim

Bloomington, IN

Aug 2016 - May 2022 (expected)

### University of Illinois at Urbana-Champaign

B.S. IN PHYSICS

Urbana, IL

May 2016

## Academic Services

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### IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)

CONFERENCE REVIEWER

2020, 2021

### IEEE Transactions on Audio, Speech and Language Proceedings (TASLP)

JOURNAL REVIEWER

2021

### European Association for Signal Processing (EURASIP) Journal on Audio, Speech, and Music Processing

JOURNAL REVIEWER

2019, 2020, 2021

## Technical and Personal skills

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### Programming

PYTHON, C++, JAVA, R, MATLAB, BASH SCRIPTING

### Software and Tools

TENSORFLOW, PYTORCH, KERAS, KALDI

### Languages

FLUENT IN KOREAN AND ENGLISH. ABLE TO UNDERSTAND BASIC CHINESE (MANDARIN)