

ZHEHUI ZHANG

Southern University of Science and Technology ◊ ShenZhen, GuangDong, China
(+86) 137 9844 8825 ◊ zzh953928832@gmail.com <https://way2coder.github.io/>

RESEARCH INTEREST

Themes Deep learning, Machine learning, Audio signal processing,
Multimodal representation learning, Affective music generation,
Computer music, Music Information Retrieval

EDUCATION

Postgraduate Education

Southern University of Science and Technology *Shenzhen, China*

Postgraduate Student, Department of Computer Science and Engineering
Aug 2022 – Jul 2025 (expected)

Core Courses

- Modern Signal Processing, Advanced Artificial Intelligence, Advanced Optimization Algorithms, Image/Video Compression and Network Communication,

Undergraduate Education

Shanghai Jiao Tong University *Shanghai, China*

Bachelor of Engineering, School of Ocean and Civil Engineering
Sep 2018 – Jul 2022

Core Courses

- Machine Learning, The Practice Course of Artificial Intelligence Interactive Technology, Data Structure, Thinking and Approach of Programming(C++), Calculus, Linear Algebra, Probability and Statistics

PUBLICATIONS & MANUSCRIPTS

- 1 Zhehui Zhang*. Enhancing 1-Second 3D SELD Performance with Filter Bank Analysis and SCConv Integration in CST-Former. Preprint available at [[arXiv](#)]. Intended for submission to *Interspeech 2025*.

RESEARCH EXPERIENCE

Southern University of Science and Technology

Shenzhen, China

May, 2023 – Present

Project: Sound Event Localization and Detection with Distance Estimation (3D SELD) with Short-Time Delay
Research Lead, Advisor: A.P. [Ran Cheng](#)

- Developed novel approaches for SELD with a focus on improving localization performance in spatial audio scenario, especially under short-time delay conditions.
- Investigated the impact of various audio filtering techniques (Mel, Gammatone and so forth) on audio intermediate representations to enhance overall system performance.

- Designed and implemented neural network architectures based on CNN, Conformer, TCN, GRU, and Transformer models to improve feature extraction and localization accuracy.

TEACHING EXPERIENCE

1. Data Structures and Algorithms (C++)

Served as a National Olympiad in Informatics(NOI)(C++) competition coach, guiding students in advanced algorithm and data structure studies, mentoring them for programming contests, and enhancing their algorithmic thinking and practical skills.

Starry Workshop, Shenzhen, 2023-2024

2. Python Programming

Taught Python programming courses at the Department of Computer Science, Shanghai Jiao Tong University, covering the fundamentals and applications of Python, helping students master programming skills and develop problem-solving abilities.

Department of Computer Science, Shanghai Jiao Tong University, 2022-2023

PROGRAMMING SKILLS

Proficient	Python, PyTorch, Markdown, Git
Familiar	C/C++, JUCE, TensorFlow, Keras, Java, Jekyll, etc.
OS	Mac OS X, Microsoft Windows, Linux

LANGUAGE SKILLS

IELTS	Overall 7.0 (Reading 7.5, Listening 7.5, Speaking 6.0, Writing 6.0)
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