Bo Yang

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EDUCATION

Delft University of Technology, CS PhD Candidate (11/2024-Now) Major: Computer Science(Edge AI)

Eindhoven University of Technology, MSc, Cum Laude (09/2022-08/2024) GPA: 8.5/10 Thesis: 9/10 Major: Electrical Engineering(Signal Processing System)

Shandong University, BSc (09/2018-07/2022) GPA: 84.76 Major: Electronic Engineering

PUBLICATIONS

Hybrid Real- and Complex-valued Neural Network Architecture, (IEEE OJSP 2025)

Paper Link

I propose the idea of how to build the hybrid real- and complex-valued neural network (HNN) architecture, also developed the HNN-specific architecture search framework to reduce the dimensionality of the network into a tailored solution. I verify the viability of the HNN in comparison to a real-valued architecture with an experiment using the AudioMNIST dataset.

Successive Threshold-based Multipath Mitigation aided by Neural Network for UWB Ranging, (4th IEEE International Symposium on Joint Communications and Sensing 2024)

Paper Link

I employ IMEC's existing threshold-based multipath mitigation algorithm, known as STM, and confirm that STM enhances ranging performance in multipath environments. Additionally, I propose a framework that utilizes the Channel Impulse Response (CIR) signal for range estimation, aiming to improve performance in multipath conditions by augmenting STM with a neural network architecture called STMnet. Through comparative analysis with other methods, I demonstrate that this approach surpasses the state-of-the-art.

Patent: A wireless intelligent sensor and its application

patent number: CN202110094598.5

Research Experience

NXP: [12/2023-09/2024]

Research Intern

I am a part of the ML-AI department at NXP, developing the innovative Hybrid Complex- Real-Value Neural Network. My primary focus lies within the realm of autoML and audio, particularly in areas such as Hyperparameter Optimization (HPO), Neural Architecture Search (NAS), and speech enhancement.

IMEC: [07/2023-12/2024]

Research Intern

In my role as a research intern with the UWB4z group at IMEC, my primary responsibility is to enhance the accuracy of range estimation and localization for UWB devices in diverse environments.