



## Bo Yang

**Nationality:** Chinese **Date of birth:** 11/05/2000

**Phone number:** (+31) 685630660 **Email address:** [b.yang2@student.tue.nl](mailto:b.yang2@student.tue.nl)

**WhatsApp Messenger:** +31685630660

**LinkedIn:** [linkedin.com/in/bo-yang-18441921b](https://www.linkedin.com/in/bo-yang-18441921b)

**Website:** <https://yang-bobo.github.io/Bo-Yang.github.io/>

### EDUCATION

#### Master: Eindhoven University of Technology

[ 09/2022 – Current ]

**Major:** electrical engineering (signal processing system)

**average grade:** 8.14

##### core courses:

Machine Learning Engineering, Statistical Signal Processing, Computer vision and 3D image processing, Bayesian machine learning.

#### Bachelor: Shandong University

[ 09/2018 – 06/2022 ]

**Major:** electronic engineering

**average grade:** 84.76

### WORK EXPERIENCE

#### Deep Learning Intern

**NXP** [ 19/12/2023 – Current ]

**City:** EINDHOVEN

**Country:** Netherlands

Presently, I am a part of the ML&AI department at NXP, where my role centers around the optimization of the innovative Complex-Real Value Neural Network (CRVNN) developed by NXP. My primary focus lies within the realm of autoML, particularly in areas such as Hyperparameter Optimization (HPO) and Neural Architecture Search (NAS). I leverage autoML frameworks like Optuna and NNI to enhance both the architecture and other hyperparameters of the CRVNN. Additionally, I am actively involved in crafting automated procedures for the design of this novel network. My responsibilities extend to the development of an architecture optimization framework, followed by efforts to enhance the interpretability and explainability of the network. Once the CRVNN architecture is refined, I apply it to specific tasks, such as optimizing its performance for applications like hearing aids.

#### Research Intern

**IMEC** [ 16/07/2023 – 16/12/2023 ]

**City:** EINDHOVEN

**Country:** Netherlands

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. I delve into the development of innovative algorithms and construct efficient neural networks to elevate the precision of UWB devices. Through a comprehensive analysis of UWB signal characteristics, I introduced a cutting-edge neural network architecture named 'STMnet.' This architecture, when integrated with IMEC's internal algorithm, resulted

in a significant enhancement in range estimation performance compared to established methods. The successful outcomes of this work have been documented and published in the International Symposium on Joint Communications & Sensing 2024.

### **QA intern**

**Didi global Co. Ltd.** [ 09/2021 – 12/2021 ]

City: Hangzhou

Country: China

Assisting with the development and execution of test plans and test cases for software applications or websites. Participating in the testing of software releases to identify bugs, defects, and usability issues. Documenting and tracking defects and issues found during testing, and working with developers to resolve them. Conducting regression testing to ensure that previously identified defects have been fixed and do not reoccur.

## **PUBLICATIONS**

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**Successive Threshold-based Multipath Mitigation aided by Neural Network for UWB Ranging, 4th IEEE International Symposium on Joint Communications & Sensing 2024(Under Submission)**  
[2024]

introduce a threshold-based multipath mitigation algorithm which we referred to as STM. STM improves the ranging performance in multipath conditions. We further improve the ranging performance in multipath conditions by assisting the STM with a Neural network architecture called STMnet.

**Patent: A wireless intelligent sensor and its application**

[2021]

patent number: CN202110094598.5

## **PROJECTS**

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**DOA Estimation Using Deep Learning**

[ 01/04/2023 – 01/07/2023 ]

estimating the Direction of Arrival (DOA) of signals in an array antenna system by harnessing the capabilities of deep learning models. Training various deep learning models to learn the complex mapping between signals and DOA angles, and evaluating the model's performance under different conditions. A comparative analysis with traditional methods was conducted to highlight the advantages of the deep learning-based approach.

## **RESEARCH EXPERIENCE**

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**A Wireless Intelligent Sensor and Its Application**

[ 06/2020 – 06/2021 ]

**Supervisor:** TAO Jifang

**Purpose of research:**

Development of Wireless Sensor Network with high connectivity and robustness under occasions such as fire hazard.

**Duties:**

Simulate the WSN using MATLAB; carry out robustness test with different strategies, such as topology control.

**Outcome:**

The WSN system maintained high connectivity at 5% offline ratio of sensors; and survived the Denial of Service (DOS) attack test.

**publication Patent:**

A wireless intelligent sensor and its application. (patent number: CN202110094598.5)

## **SKILLS**

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**Pytorch**

**Adaptive Array Signal Processing**

**Computer Vision**

**Image Compression and Processing**

**Bayesian machine learning**

## **PERSON INFORMATION**

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### **Self-presentation**

My name is Yang Bo and currently pursuing my master's degree in Signal Processing System at TU/e.

Possess expertise in constructing deep learning models, familiar with PyTorch frameworks and classic machine learning algorithms. Have experience in solving computer vision and image processing problems. has strong self-motivated learning ability, great adaptability to new working environment, excellent communication skills.