Yuxing Liu

(+65) 886 46808 • E220003@e.ntu.edu.sg
linkedin.com/in/YuxingLiu0619 • RovanieLiu

Education

Southeast University, China **September 2018 – June 2022**

Bachelor of Engineering
Major in Information Engineering

Courses:

- Advanced Mathematics
- Information Theory and Coding
- Data Structure and Algorithm
- Analog Circuit
- Linear Algebra
- Random Signal Analysis
- Digital Signal Processing
- Signal Processing
- Communication Principles
- Probability Theory and Mathematical Statistics
- Computer Composition Principle

Nanyang Technological University, Singapore **September 2022 – April 2023**

Master of Science
Major in Signal processing

Courses:

- EE6222 Machine Vision
- EE6204 System Analysis
- EE6427 Video Signal Processing
- EE6401 Advanced digital signal processing
- EE6403 Distributed Multimedia Systems
- EE6402 Real-time DSP Design and Applications
- EE7403 Image Analysis and Pattern Recognition
- EE6227 Genetic Algorithms and Machine Learning

Dissertation

Research on Feature Extraction Method of Active Target Echo in Reverberation Background

- **Undergraduate Graduation Design Thesis in SEU**
- **Abstract:**A numerical model of active sonar target echo is constructed based on multi-point echo theory, and the Marine reverberation is modeled and simulated based on Middleton statistical model In the process of the echo signal, the auto-regressive model pre-whitening method is used to suppress the reverberation interference, and the target velocity and scale characteristics are extracted from the echo signal according to the Doppler frequency shift principle and multi-point model
- **Keywords:**Anti-reverberation, Auto-regression model whitening, Doppler frequency shift, Matched filter, Variable sampling
- Gained proficiency in MATLAB

Car Cabin Monitering: Driver's Action Recognition—skeleton-based **In progress**

- **MSc Student Dissertation Project in NTU**
- **Background:** Action recognition is one of the most important tasks in car cabin monitoring. Skeleton-based method is a new trending in Action Recognition area with fast inference speed. Thus, it's worth to explore stable skeleton-based models for driver's action recognition
- conduct research on action recognition methods, especially efficient models
- build prototype and benchmark model on public dataset
- test in real car cabin environment
- Gained proficiency in Python, Pytorch

Projects

Design of a Non-contact Intelligent Drug-Craving Evaluation System **11/2019-11/2020**

- **Leader, Student Research and Training Programme in SEU**
- Applied theories in the fields such as artificial intelligence, micro-expression and sentiment analysis of speech
- Conducted theoretical feasibility analysis and proposed schemes for optimisation and allocation of resources
- Designed detection methods based on audios and videos and a non-contact intelligent evaluation system targeting users' drug-craving and mental health
- **Keywords:** Micro-expression recognition, Voice emotional signal processing
- Gained proficiency in C++, Python, MATLAB and other programming languages

Internship Experience

Department of Product Research and Development Centre **07-08/2021**

- **Quality Assurance Engineer**, Hikvision Digital Technology Co., Ltd.Hangzhou, China.
- Engaged in development and maintenance of UI design, performance analysis via Linux and other daily maintenance such as problem location.
- Conducted integrated validation of software and hardware in embedded system.
- Developed the applications of general and intelligent modules of embedded monitoring equipment.
- Gained proficiency in the AI image calibration and algorithmic models.
- Compiled the programs for integration testing, performance testing and stability testing.
- Participated in network protocol interactive simulation as well as network security scanning and detection.

Extracurriculars

President of TEDxSEU **06/2020-06/2021**

- Organised speeches themed on 'involution', film sharing meetings, TED mini camp and TED circle.

Volunteer of TEDxNTU **09/2022**

- Participated in Operations Team