

Shengding Liu

(+86) 15936165501 | 12110813@mail.sustech.edu.cn

No. 1088 Xueyuan Avenue, Nanshan District, Shenzhen, Guangdong

EDUCATION

Southern University of Science and Technology

September 2021 – Expected June 2025

Bachelor in Intelligent Science and Technology of Computer Science and Engineering Department

Cumulative GPA: 3.78/4.00

Main courses:

Introduction to Computer Programming(A), Calculus(A+), Principles of Database Systems(H) (A-), Digital Logics(H) (A-), Principles of Computer Organization(H) (A), Operating System(H) (A), Introduction to AI(A+), Machine Learning(H) (A)

Johns Hopkin University

March 2024 – Expected August 2024

Visiting Researcher under the guidance of Prof. Renjie Zhao in Computer Science Department of the Whiting School of Engineering

RESEARCH INTERESTS

Much passion on Smart Sensing and Mobile Computing and much experience in the related research directions in mmwave/FMCW radar and Ultra-Wideband (UWB).

RESEARCH EXPERIENCE (see details at [SendingA \(Shengding Liu\) \(github.com\)](https://github.com/ShengdingLiu))

4D Point Cloud Imaging based on mmwave radar

February 2022-June 2023

Reproduce 4D point cloud imaging based on mmwave radar through TDMA and DDMA and make a comparison between these two imaging methods in Innovation Practice Course.

Radar-Immune: Enabling Radar-to-Radar Parallel Interference Cancellation using Phase Modulation

February 2022-July 2023

Get involved with the design of the modality and the experiments, collect and deal with the experimental data of radar-to-radar parallel interference. Now the paper is submitted to INFOCOM and I am the second author of the paper.

Update: Unfortunately, the paper is rejected because the motivation is not strong enough.

Update: The paper is being modified. And it is suggested to submit to IEEE TDSC by my advisor.

Synthetic Aperture Radar(SAR) Based on Millimeter Microwave Radar and Back Projection(BP) Method

July 2023-Janary 2024

Have learnt the basic principles and several algorithms of synthetic aperture imaging, and have reproduced the 2D SAR.

Ultra-Wideband Multipath Triangulate Localization (SOLO)

March 2024-June 2024

A UWB multipath triangulate localization algorithm is first proposed and then simulated, including the generation of UWB signal and the channel model, the extract of CIR, the obtainment of AOA, AOD, rTOF and the localization algorithm. The simulation is initially verified successfully.

Make DWM 1002 Node Module Be a Tag with Multiple Antennas (SOLO)

June 2024-July 2024

Modify the commercial off-the-shelf device DWM 1002 Module to be a tag with multiple antennas.

PROJECTS (see details at [SendingA \(Shengding Liu\) \(github.com\)](#))

Chess Game through Java Programming

May 2022 – July 2022

Developed a visually appealing interface, complete functionality, and Monte Carlo AI algorithm.

Score: 100 / 100.

The Weakest Reversi Game and CARP through Python Programming

February 2023-June 2023

Design and achieve the functionality and the inner logic of the Weakest Reversi through Alpha-Beta Pruning and compete with others in AI(H) course.

Score: 9.5 / 10.

Complete the CARP through genetic algorithm with heuristics and Merge-Split Operators.

Score: 9 / 10

Build the model for Intelligent Cooking System

February 2023 – June 2023

Build the model for the Intelligent Cooking System in Climbing Program.

AI-based Bibliographic analysis of library posters

February 2024 – June 2024

Use a Python web crawler to capture posters from SUSTech library website, perform text recognition through OCR, and utilize GPT for poster analysis.

HTTP File Manager

February 2024 – June 2024

Achieve a http file manager supporting GUI, breakpoint transmission and encrypted transmission as well as uploading, downloading and deleting files.

Project helper

February 2024 – June 2024

Build a website for assisting teachers and students to access course projects by frontend-backend collaboration

SKILLS

Programming Languages:

Have a good master of Java, Python, MATLAB, Verilog, SQL, C++

Software:

mmWave Radar: Familiar with the mmwave_Studio, mmwave_demo_Visualizer, Uniflash

Ultra-wideband(UWB): SEGGER Embedded Studio, J-Link

Hardware:

Familiar with the radar hardware, able to use all the work modes of the evaluation board, especially AWR1843BOOST and write the Radar Manual of Jinlab in SUSTech.

Have a deep insight in UWB commercial off-the-shelf devices such as DWM 1002 Module and DWM 1003 Module and be able to modify the source code and program the device to achieve the specific functions.

HONORS & SCHOLARSHIPS

Freshman Scholarship of SUSTech

September 2021

Advanced Individual during Winter Vacation at My Alma Mater Revisiting Program

April 2022

Excellent Team during Winter Vacation at My Alma Mater Revisiting Program

April 2022

2021-2022 Outstanding Student Cadres in Shuli College

June 2022

2021-2022 National Encouragement Scholarship

November 2022

Bronze Medal Winner of SUSTech Cluster Competition(leader)

March 2023

Final Wining Award in the 18th Challenge Cup National College Students' Extracurricular Academic and

Technological Works Competition	March 2023
Honorable Mention in 2023 Mathematical Contest In Modeling(leader)	May 2023
Campus Level Completion Project in Guangdong Provincial Climbing Plan	June 2023
National level Completion Project in Innovation and Entrepreneurship Training Program for College Students (China)	June 2023
First Prize in National College Student Mathematical Modeling Contest - Guangdong Provincial Competition(leader)	September 2023