Tianyang Chen

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Engaged in Radio Frequency Identification (RFID) Sensing, Communications, Embedded Systems.
Expected to graduate with a Bachelor's degree from Southern University of Science and Technology.

Driven by the inherent joy of learning,
I am motivated to unravel the mysteries of the world herself;
My pursuit of knowledge is guided by the aspiration to actualize the purpose of my life,
aiming to bring happiness to others through the existence of myself.

EDUCATION

Nanyang Technological University **Jan. 2024 ~ May. 2024**
- GEM Trailblazer Exchange Programme of Electrical Engineering;
- Exchange admission and formalities have been completed, proceeding to Singapore for academic study and research.

Southern University of Science and Technology **Aug. 2021 ~ Jun. 2025**
- Bachelor of Communication Engineering in Electrical and Electronics Engineering;
- Current academic performance: Overall GPA 3.72/4.00, Semester GPA 3.35 ~ 3.75 ~ 3.85 ~ 3.90, Major Rank 9/30.

HONORS AND AWARDS

- The first prize of Outstanding Student Scholarship, SUSTech; **Oct. 2023**
- The third prize of TI Cup National Undergraduate Electronic Design Contest, Guangdong Region; **Aug. 2023**
- The first prize of Electronic Design Contest Qualifying Competition, SUSTech; **Jun. 2023**

RESEARCH EXPERIENCE

Worked as a research assistant in Professor Terry Ye's Internet of Things and Microsystems Laboratory, primarily involved in:

Research on Surface Acoustic Wave Wireless (SAW) Sensor Reader Architectures and Performance **Sep. 2023 ~ Present**
- Researched to construct a software defined radio based reader for the wireless interrogation and signal processing of SAW sensors;
- Designed a highly robust RFID-SAW integrated sensing system solution for diverse applications, optimizing the frequency sweep resolution of sensing signals from an average of 5 GHz to less than 100 kHz;
- Acquired proficiency in the Linux-based GNU Radio SDR systems, implemented the applications on the Universal Software Radio Peripheral (USRP) platforms, gained experience in Radio Frequency (RF) hardware analysis and design methodologies.

Research on Flexible Sensor Device based on Ultrasonic Resonance Induced Deposition Printing **Oct. 2022 ~ Apr. 2023**
- Contributed to the completion of the College Students' Innovative Entrepreneurial Training Plan Program led by Prof. Ye;
- Investigated the process fundamentals of flexible substrates, utilized the Sonoplot nanomaterial deposition system to fabricate silver nanowire flexible sensors, conducted sensitivity response curve testing under conditions ranging from 0 ~ 400 kPa;
- Gained concepts of research workflow, standardized scientific writing, acquired experience for project proposal and participation.

ACADEMIC PROJECTS

Signal Separation Device **Aug. 2023**
- Led a team to participate in the National Undergraduate Electronic Design Contest, organized by the Ministry of Education and the Ministry of Industry and Information Technology of the PRC, and had the honor of receiving an award;
- Devised a hardware and software system for frequency-domain sampling signal analysis and separation based on analog frequency-mixing independently in a remarkably brief four-day timeframe: this innovation demonstrated a minimum 3000-fold reduction in sampling rate requirements compared to conventional approaches;
- Enhanced project management skills, applied a comprehensive integration of communication and information engineering.

Automatic Parking Electric Vehicle based on TI Microcontroller Unit **May. 2023**
- Led a team in completing the electric vehicle model based on the TM4C123GH6PZT7 platform, enabling automated parking as the standards of the Chinese driver's license examination;
- Employed OpenMV module for parking sensing, utilized MCU for signal processing and electromechanical control;
- Acquired proficiency in hardware and software debugging, gained expertise in C language and embedded development.

Digital-Analog Hybrid Transceiver **Apr. 2023**
- Led a team in designing and constructing a hybrid communication system based on the requirements of the previous National Electronic Design Contest;
- Efficiently achieved integrated communication of digital and analog signals through Frequency Division Multiplexing (FDM) and bandpass filtering techniques;
- Applied theoretical communication knowledge practically, engaged in the entire software and hardware development process.