ZHUOYUAN SUI

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PROFILE

Electrical Engineering graduate student with strengths in communication system and microelectronics, combining system-level understanding with hardware-oriented analysis.

Hands-on experience includes communication modeling, circuit design and simulation, and cloud resource pool operations through an industry internship, which reflects a balanced software–hardware skill set and an engineering mindset focused on system analysis and implementation.

Seeking engineering-oriented roles where system-level thinking and cross-domain technical skills can be applied.

EDUCATION

National University of Singapore — Aug 2025 — Present
Singapore

Master of Science in Electrical Engineering

- Related Coursework in **Communications & Networks**, **Microwave & RF Engineering**, and **Microelectronic Technologies**

The Chinese University of Hong Kong, Shenzhen — Sept 2021 — May 2025
Shenzhen, China

Bachelor of Engineering in Electronic Information Engineering (First Class Honours)

EMPLOYMENT HISTORY

Cloud & Data Center Operations Engineer Intern, China Unicom Limited – Jinan Branch — Jun 2025 — Aug 2025
Jinan, China

- Performed front-end-based operations of cloud resource pools based on Fusionsphere
- Supported data center infrastructure operations, including air- and liquid-cooling temperature control and physical network maintenance

PROJECTS

Capstone Project, NUS — Jan 2026 — Present
Singapore

Project: "*Electromagnetic-based Wireless Power Transmission for Implantable Batteries*"

- Developing WPT transmitter-receiver circuits and resonant coil structures using RF and EM tools
- Fabricating and testing PCB prototypes and miniaturized coils for MHz-range power transmission
- Evaluating and optimizing power efficiency, alignment sensitivity, and thermal safety in tissue-mimicking environments

Individual Capstone Project, CUHKSZ — Sept 2024 — Dec 2024
Shenzhen, China

Project: "*A narrowband wireless communication system simulation testbed"*

- Built a Python-based simulation testbed compliant with narrowband-IoT specifications, creating a versatile toolkit for system-level evaluation under realistic conditions.

- Implemented a complete baseband communication link, including convolutional encoding, QPSK/16-QAM modulation, fading channel modeling, matched filtering and synchronization.
- Evaluated and validated system reliability and efficiency through comparison with theoretical models

Summer Research Project, Shandong University ..... Jun 2024 — Sept 2024

Jinan, China

Project: *"Ultrasound-Based Bio-Adhesive Device for Urine Volume Monitoring"*

- Participated in the design of 2 MHz conformable ultrasonic transducers and conducted ultrasound field simulations and preliminary performance optimization.
- Performed early-stage literature review to support module-level system architecture, including component selection and feasibility analysis for driver circuits and analog front-end

SKILLS

Communication Simulation & Signal Processing: Python, MATLAB ..... ***Experienced***

Circuit Design & Simulation: Cadence Virtuoso ..... ***Skillful***

Full-wave Simulation: HFSS ..... ***Skillful***

PCB Design: Altium Designer ..... ***Beginner***

Technical Documentation & Reporting ..... ***Experienced***

Language: English ..... ***Skillful***