

Hansheng ZHANG

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EDUCATION

University of California, San Diego

2024 – Present

Master of Science in Electrical and Computer Engineering Candidate, Expected Jun. 2026

The Chinese University of Hong Kong, Shenzhen

2020 – 2024

Bachelor of Engineering in Computer Science and Engineering, with **Honors, First Class**

- GPA: **3.593/4.0** Rank: **29/144** MGPA: 3.657/4.0.
- Core Course: Computer Architecture, Data Structure and Algorithms, Operating System, Software Engineering, Database System, Parallel Computing, Machine Learning, Computer Networks.

SKILLS

C/C++, Python, Java, Software Engineering, Machine Learning, Model Building and Training

WORK EXPERIENCE

Vivo Mobile Communication Technology Co., Ltd.

Shenzhen, China

Software Engineer Intern, OS Experience Center (Python)

Summer, 2023

- Developed a **fuzzer** testing framework for **300+** system service calls in a new mobile OS. Integrated **AIDL** (Android Interface Definition Language) parsing and parameter randomization, enhancing test coverage and robustness.
- Created **visualization** tools using **Tinker in Python** to analyze fuzzer test results, enabling faster and intuitive identification of system vulnerabilities and performance issues.
- Automated UI testing for **50+** popular apps using **Google's Mobly** framework. **Streamlined** app installation, uninstallation, and logging processes, improving testing **efficiency**.
- Built web scraping tools using **Selenium** and custom libraries to automate data retrieval from platforms, ensuring real-time access to testing resources.

PROJECTS

Speech Generation Project (Contribute to an open-source platform using Pytorch; [Link](#))

2024.01 – 2024.05

- Remodeled the **JETS** (Jointly Training **FastSpeech2** and **HiFi-GAN**) within the **Amphion** open-source platform, enabling end-to-end **text-to-speech (TTS)** synthesis with improved accessibility for users.
- Led the development of **key modules**, including **FastSpeech2** (dataset, encoder, variance adaptor), **alignment** module, **HiFi-GAN** (generator and discriminator), and **loss functions**. Effectively managed challenges in **data flow, debugging, and visualization** to optimize the model's performance.
- Enhanced speech synthesis **efficiency** by unifying the training of FastSpeech2 and HiFi-GAN.
- Collaborated with a team of two to utilize the **LJSpeech** dataset, generating **1,000** high-quality audio samples.

Undergraduate Research Assistant (in Data Science Field)

2022.10 – 2023.05

- Participated in research project: Optimizing Smart Decision-Making in **Big Data Management**.
- Translated a **MATLAB** project (about **1,500** lines) to C++ to accelerate computation speed.

Database System Project, Team Project Leader -- [Link](#) (SQL and Python)

Spring, 2023

- Led the design and development of EduSpark, a **database system** simulating **study-abroad services** for undergraduate students applying to master's programs.
- Created **3 core databases** for managing multiple information, using relational schema and normalization.

Operating System Projects (C/C++ and CUDA C++)

Fall, 2022

- **Multi-process Simulation**: Developed a **C program on Ubuntu** where a parent process manages child processes in **15** different termination scenarios, including **kernel thread** management for process forking.
- **Multi-threading Game**: Implemented "Frog Cross River" using **multi-threading in C**.
- **Virtual Memory Simulation**: Implemented a **virtual memory system** using **GPU memory and CUDA C++**, managing page allocation, LRU-based swap paging, and memory buffer operations.
- **File System Simulation**: Simulated a **file system** with **GPU memory in CUDA C++**, supporting file operations (open, read, write, remove) and file ranking by size or modification time.