

# Haochen Wang

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## EDUCATION

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- **University of Southern California (USC)** Los Angeles, CA  
Master of Electrical Engineering; GPA: 4.0/4.0 Dec. 2021-Dec. 2023
- **South China Normal University (SCNU)** Guangzhou, China  
Bachelor of Network Engineering; GPA: 3.78/4.0; Rank: 1/72 Sept. 2017-Jun. 2021

## SKILLS

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Programming Languages: Python, C/C++, Verilog, SystemVerilog, Java, Rust, SQL, x86 ASM

Libraries: Scrapy, BeautifulSoup, Requests, Django, Flutter

Cadence Tools: Virtuoso, Spectre, Xcelium

Mentor Graphics Tools: ModelSim, QuestaSim, Calibre

Tools: UNIX, Makefile, Xilinx Vivado, Intel Quartus, Git, Docker, PostGIS, ArcGIS

## EXPERIENCE

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- **CS Department, USC** Los Angeles, CA  
**Graduate Teaching Assistant** May 2022-Aug. 2022
  - Coordinated with Prof. Saty Raghavachary as teaching assistant (course producer) in CSCI-455X Introduction to Programming Systems Design.
  - Presented labs to help students to understand the usage and importance of debugging (GDB) and get an overview of Computer Systems.
  - Held weekly office hours to help students with problems in assignments and labs.

## PROJECTS

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- **Design and Implementation of 5-stage Pipeline Processor** Sept. 2022-Oct. 2022
  - Described Data Path Unit and Control Unit for single-cycle CPU with basic MIPS instructions.
  - Resolved problems related to Data Dependency and Early Branching.
  - Utilized RTL in Verilog and build 5-stage (IF, ID, EX, ME, WB) pipeline with encoded control signal, Internal Forwarding Register File and Early Branching.
- **Full-Custom Design Layout of Arbiter System with Multiplier and Divider**
  - Designed, implemented and drew layout of a ALU supporting 5-bit multiplication and 10-bit division and a 2-1 Round-Robin-based Arbiter with multiply and divide request with the Cadence Virtuoso and GPDK 45nm.
  - Planned, routed and simulated all aforementioned components with Cadence Virtuoso and Spectre and checked DRC and LVS with Mentor Graphics Calibre.

## LEADERSHIP AND INVOLVEMENT

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- **Hope Center, Reality L.A.** Los Angeles, CA  
**Volunteer** Mar. 2022-Aug. 2022
  - Sorted, organized and shelved food donations for storage to preserve food and accelerate cooking.
  - Managed and distributed cooked food with other volunteers.
  - Coordinated and helped out in cleaning utensils after food distribution.
- **Network Club, SCNU** Guangzhou, China  
**Vice President of Technical Department** Sept. 2017-Jun. 2019
  - Managed existing members and held interviews to recruit members for Technical department.
  - Provided technical supports to on-campus IT activities, including development and maintenance of school forum, holding CTF competition.
  - Organized members to write articles about popular computer-related topics, such as resolution of DNS, anti-phishing, and published them in social media to enrich students' knowledge.