

# Yuchao Su

Raleigh, NC

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## Education

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### North Carolina State University

*PhD in Computer Science*

2024 – Present

*Raleigh, NC*

### Northeastern University

*Master of Science in Electrical and Computer Engineering GPA:3.8/4.0*

2021 – 2023

*Boston, MA*

### Southeast University

*Bachelor of Engineer in Computer Science and Technology GPA:3.3/4.0*

2017 – 2021

*Nanjing, China*

## Skills

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**Languages:** C++, Go, Python, Java, Verilog, R, SQL, HTML/CSS

**Developer Tools:** Vivado, VS Code, Visual Studio, IntelliJ, Android Studio, Perforce, Jira

**Tech Stack:** Linux, ROS, Git, Arduino, Springboot, Hadoop

## Experience

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### Electronic Arts Inc.

*Software Engineer Intern*

Sept-Dec 2022

*Orlando, Florida*

- Developed a Python script to perform statistical analysis on backend logs of Madden NFL and CollegeFB, enabling insights into top-ranked logs and enhancing data management capabilities.
- Achieved significant log reduction of 80%, reducing Madden and CollegeFB backend logs from over a million items to 200,000 to 300,000 items, leading to improved storage efficiency by reducing the log file size from over 200MB to approximately 20MB.
- Leveraged the PS5 Razor CPU tool to enhance the runtime efficiency of the RELEASE version, resulting in a notable performance improvement of 20%, thereby optimizing the processing speed and overall efficiency of the script.

## Projects

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### Zeonica Simulator | Go, CGRA, Wafer-Scale Engine Repo [github.com/sarchlab/zeonica](https://github.com/sarchlab/zeonica)

Aug 2023-Now

- Zeonica is a simulator for CGRA and wafer-scale accelerators.
- Zeonica is developed by Go and based on Akita Simulator Engine
- Zeonica now is successfully support data pass through, ReLU and will support matrix multiplication recently.

### Chip Thermal Control | Python, Pycharm, Reinforcement Learning

Apr 2023

- Developed a Python-based chip thermal control system with dynamic frequency management trained using the DQN algorithm, optimizing temperature regulation and performance.
- RL-based strategy in the system achieved a notable 20% reduction in chip temperature compared to traditional DVFS, maintaining performance integrity.
- Successful implementation of RL techniques in the chip thermal control system showcased efficient temperature management, advancing chip design capabilities and mitigating overheating risks.

### Rescue Robot | C++, ROS, SLAM, OpenCV

Sept-Nov 2021

- Developed an automatic robot by C++ and ROS to find and locate victims in a enclosed space
- Displayed map of enclosed space, robot and victims locations by Rivz
- Utilized Gazebo simulation tool to create test environment, test algorithm and modify key parameters
- OpenCV is implemented to process the acquired image to make it a binary image and to obtain approximate orientation of the victim

### RISC-V CPU and Peripherals | Verilog, Vivado

Sept-Dec 2020

- Lead a team of three to design a RISC-V, 7-stages Dual-Launch Chaotic Superscalar Processor and deployed on customized Xilinx board
- Developed drives for LCD touchscreen, Bluetooth, WiFi, LED, digital tubes, switches
- According GB2312-80 protocol, design character library and 16\*16 character model to present words on screen
- Develop a simple Tetris game in order to test CPU and peripheral

## Extracurricular/Awards

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### Teaching Assistant

*School of Electrical and Computer Engineering, Northeastern University*

**2021 – 2023**

*Boston, MA*

### Suzhou Industrial Park Scholarship

*School of Computer Science and Engineering, Southeast University*

**2020**

*Nanjing, China*