Yuchao Su

Raleigh, NC

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Education

North Carolina State University	**2024 – Present**
PhD in Computer Science	*Raleigh, NC*

Northeastern University	**2021 – 2023**
Master of Science in Electrical and Computer Engineering GPA:3.8/4.0	*Boston, MA*

Southeast University	**2017 – 2021**
Bachelor of Engineer in Computer Science and Technology GPA:3.3/4.0	*Nanjing, China*

Skills

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

Electronic Arts Inc.	**Sept-Dec 2022**
Software Engineer Intern	*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

Zeonica Simulator | *Go, CGRA, Wafer-Scale Engine Repo 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

Teaching Assistant **2021 − 2023**

School of Electrical and Computer Engineering, Northeastern University *Boston,MA*

Suzhou Industrial Park Scholarship **2020**

School of Computer Science and Engineering, Southeast University *Nanjing,China*