

CHENXI HUANG

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EDUCATION

University of Minnesota Twin Cities Jan 2023 – Jun 2025 (Expected)

Bachelor of Science in Computer Science, GPA: 4.0/4.0

Nanchang University Sep 2021 – Dec 2022

Candidate for Bachelor of Engineering in Computer Science

PROJECTS

An Operating System Kernel Nov 2022 – Present

- Developed a custom operating system kernel from the ground up, specifically tailored for the RISC-V platform.
- Implemented multitasking capabilities to efficiently manage processes on multi-core systems.
- Designed and established a sophisticated memory management system, optimizing page and object allocation.
- Integrated built-in support for the RISC-V interrupt controller and UART device, with extensibility through a robust driver API to facilitate seamless addition of new devices.

CityView Virtual Reality Demo Sep 2016 – Nov 2016

- Created a detailed virtual cityscape within a local neighborhood using SketchUp, Unity3D, and the SteamVR SDK, with HTC Vive as the VR platform. The project's objective was to promote virtual reality within the local community.
- Significantly enhanced render performance, elevating it from 25 fps to a playable fps of 90. Achieved this by leveraging level-of-detail techniques to reduce DrawCalls and using normal mapping textures, resulting in a more immersive VR experience.
- Recognized with the first prize at a city-wide exhibition and provided hands-on VR experiences to peers from over 20 schools, further advancing VR awareness and engagement in the community.

WORK EXPERIENCE

Research Cache Side-Channel on Network Function Virtualization Platform May 2023 – Aug 2023

Department of Computer Science and Engineering, University of Minnesota Twin Cities

- Collaborated within a team to investigate cache side-channel vulnerabilities in Intel x86 processors.
- Tasked with finding vulnerabilities in a network function virtualization platform proposed by the department's network lab.
- Successfully implemented a covert-channel demo allowing inter-process communication, circumventing the OS isolation.

Full-stack Developer Aug 2022

Jiangxi Haitun Supply Chain Ltd.

- Developed a warehouse management system for 20+ university campuses, improving item tracking and info accessibility.
- Created a user-friendly UI with WeChat Instant App SDK and implemented a back-end server using FastAPI and MySQL.
- Enhanced convenience for employees to update item info and provided managers with real-time warehouse activity statistics.

HONORS

ICPC North America Championship May 2023

ICPC North Central NA Regional Contest **Gold Medal** Apr 2023

ACM SIGBED Student Research Contest **Third Place in Undergraduate Category** Oct 2022

ICPC Asia Kunming Regional Contest **Silver Medal** Apr 2022

China Collegiate Programming Contest, Weihai Regional **Silver Medal** Nov 2021

CCF National Olympiad in Informatics **Bronze Medal** Aug 2020

Asia and Pacific Informatics Olympiad **Gold Medal** Aug 2020

ICPC Asia Nanchang Regional Contest **Silver Medal** Nov 2019

SKILLS

- Languages: C/C++, Python, C#, Shell, Java, JavaScript, SQL, Assembly (x86 and RISC-V), HTML, CSS, LaTeX
- Frameworks: PyTorch, ONNX, NumPy, Pandas, Unity3D, .NET, React