Huizhe (Ainsley) Su

vhtmscyo@gmail.com · (+86) 188 1751 2853 · EAinsley · Huizhe Su

Education

University of Gothenburg, Gothenburg, Sweden — Sept. 2024 – Present, expected July 2026
M.S. in Computer Science.

ShanghaiTech University, Shanghai, China — Sept. 2020 – July 2024
B.E. in Computer Science and Technology (CS).
Bachelor thesis: Induction-Based Formal Verification of Smart Contracts.

University of Wisconsin-Madison, Wisconsin, USA — Sept. 2023 – Dec. 2023
Visiting International Student Program (VISP)

University of California, Berkeley, California, USA — June. 2023 – Aug. 2023
Summer Session C

Open Source Experience

Godot Engine Contributor — Jun. 2024 – Present

Teaching Assistant Experience

CS110 Computer Architechture — Feb. 2023 – Jun. 2023
Teaching assistant Course Lecturers: Chundong Wang, Siting Liu

I was responsible for hosting labs for students weekly, host discussion session on *Control Logic and FSM* and *Profiling* , and creating midterm questions on *control logic*.

CS101 Algorithms and Data Structures — Sep. 2022 – Jan. 2023
Teaching assistant Course Lecturers: Dengji Zhao, Hao Geng

I was responsible for creating homework and examination problems on *Hash Table* and *NPC problem*, grading student assignments and hosting exercise sessions for students weekly.

GEHA1149 Mathematical Logic — Sep. 2022 – Jan. 2023
Teaching assistant Course Lecturer: Xudong Hao

I was responsible for grading student assignments.

CS100 Introduction to Programming — Feb. 2022 – Jun. 2022
Outstanding Teaching Assistant Course Lecturers: Lan Xu, Laurent Kneip

I was responsible for carrying out tutorials and review sessions on *C and C++*.

Projects

Magnetic — Feb. 2024 – Jun. 2024
Main programmer, Co-designer Course: ARTS1429 Ludic Design and Gamification. Grade: A+

Brief description: Magnetic is a 3D puzzle game, where you can extract and inject magnetism to the objects. Use the magnetic force interaction to find your way. The game was developed in Godot. You can download this game on itch.io.

Shader Editor — Sept. 2023 – Dec. 2023
Developer Course: COMSCI559 Computer Graphics. (UW-Madison). Grade: 100

Brief description: In this course, I created a web application that is similar to shdr. It supports placing multiple items, uploading .obj file, editing vertex/fragment shader for each objects. You can view this project here.

Athernet Sep. 2022 – Jan. 2023

Co-developer Course: CS120 Computer Networks. Grade: A+

Brief description: Athernet is a user-space TCP/IP stack with full functionality and handy utilities built on the acoustic channel. This project was developed purely in the Rust language. I worked on this project with my dearly beloved, Cheng Peng. You can check the report and the code on github.

PintOS Sep. 2022 – Jan. 2023

Co-developer Course: CS130 Operating Systems I. Grade A+

Brief description: PintOS is a toy operating system designed by Stanford University. Students are required to implement additional functionality for PintOS and enhance the existing ones. Cheng Peng and I successfully together finished all the tasks in PintOS. You can check the code on github.

A new VR Locomotion Method: Ninja Run Sep. 2022 – Dec. 2023

Main developer and designer Course: ARTS1423 Interactive Product Design. Grade: A+

Brief description: A new locomotion method that simulates the running movements of a Japanese Ninja in an attempt to reduce motion sickness. This project was designed together with NT^3.
In this project, I was responsible for Unity and OpenXR development, main UI design (using Figma), deployment on Oculus Quest and user experience test design.

Gaussian Blur Optimization Feb. 2022 – Jun. 2022

Co-developer and analyzer Course: CS110 Computer Architecture I. Grade: A+

Brief description: We have optimized an existing Gaussian Blur implementation. Our version was ranked second by speed among all the students in the final competition. I worked on this project with my dearly beloved, Cheng Peng.
In this project, I was responsible for analyzing the program performance using VTune, implementing thread-level parallelism using OpenMP, implementing data level parallelism using AVX Intrinsics, and optimizing cache access by blocking and loop unwinding.

Alzheimer: A third-person puzzle game Sep. 2021 – Jan. 2022

Main developer Course: ARTS1303 Unity Game Development. Grade: A

Brief description: Alzheimer's is an artistic puzzle game about a woman who was diagnosed with Alzheimer struggled to find a cure. I made this game with Yutao Ming, the art designer, and Kaitian Chao, the level designer.
In this project, I was responsible for the main game programming, creating design tools for the level designer, version control and game testing.

Honors and Awards

Outstanding Teaching Assistant - ShanghaiTech University Jun. 2022

Reasearch Interests

I'm currently interested in game engine development, computer graphics and domain-specific languages. I also have a long-standing fond in game development and design.

Skills

Programming Language

- C/C++, familiar with modern C++.
- Rust
- Python
- C# in Unity Engine
- JavaScript
- HTML/CSS
- GLSL
- GDScript

Natural Language

- Chinese(native speaker).
- English(TOEFL 103, CEFR C1).
- Japanese.

Other skills

- Git
- LaTeX
- UML
- WebGL
- Godot Engine
- Blender