

Yuxuan Lin

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EDUCATION

- University of Illinois at Urbana - Champaign (UIUC)** **Urbana, IL**
B.S. in Computer Engineering Aug. 2023 - May 2024
- Relevant coursework:** Artificial Intelligence, Communication Networks, Computer Systems Engineering, Database Systems, Game Development
- Zhejiang University (ZJU) | ZJU-UIUC Institute Dual Degree Program** **Haining, China**
B.Eng. in Electronic and Computer Engineering Aug. 2021 - May 2025
- Relevant coursework:** Data Structure, Analog Signal Processing, Differential Equations, Computer Systems & Programming, Discrete Mathematics, Linear Algebra

RESEARCH EXPERIENCE

- GPU-Accelerated Computation for Electromagnetic Scattering of a Vegetation Model**
ZJU Summer Research | Advisor: Prof. Shurun Tan (ZJU/UIUC) Jun. 2023 - Jul. 2023
- Designed a highly parallel GPU-based algorithm for the Monte-Carlo-based electromagnetic scattering of a double-layer vegetation model.
 - Utilized MATLAB under Linux for phase matrices calculating and reduced running time using asynchronous data transfer as well as parallel random number generation in device memory offered by cuRAND library.
 - Achieved a significant 93x speed-up with respect to pure-CPU serial computing approach.
- The Multi-emotionality Improvement of Text-to-Speech Based on NN** May 2022 - May 2023
ZJU Student Research Training Program (S RTP) | Advisor: Prof. Gaoang Wang (ZJU)
- Participated in weekly group meetings, delivering presentations, and engaging in discussions with other groups to explore fundamental concepts and topics in Deep Learning.
 - Led presentations on Neural Networks and conducted in-depth study of articles in the field of Natural Language Processing (NLP).

PROJECT EXPERIENCE

- LOS - A Light Linux-Like Operating System** Mar. 2024 – May 2024
- Develop a Linux-like operating system core from scratch, using C and x86 Assembly.
 - Applied common development tools including Git on teamwork version control and GDB for debugging.
 - Supported fundamental functionalities including interrupts, system calls, scheduling, virtual memory, and a read-only file system.
 - Supported a few devices such as keyboard, RTC.
- A Video Inspiration Web Application Based on the [YouTube Trending Video Dataset](#)** Nov. 2023
- Developed a MySQL relational database-centric web application in a team of 4.
 - Deployed on Google Cloud Platform (GCP), with functionalities including sign up, log in, search by keyword, and personalized inspiration folder.
 - Implemented advanced SQL queries and created Indexes to optimize query performance, resulting in up to an 84% reduction in query time, in addition to basic CRUD operations (Create, Read, Update, Delete).
 - Designed and implemented the frontend using HTML, CSS, JavaScript, and Node.js for backend.
- Fruit-Man: A Maze Game Demo** Feb. 2024 - Mar. 2024
- According to VGA documentation, extended a video game consisting of about 4,000 lines of code with additional graphical features (status bar real-time update) and a serial port device (tux controller from UIUC, like a gamepad).
 - Using the pthread API, implemented direction control on the tux controller as well as the keyboard's keys, simultaneously receiving commands from both devices and updating game status affected by RTC.
- Cloud Parkour: Demo of a 3D Platformer Game Level** Feb. 2024
- Designed a 3D platformer level game demo using Unreal Engine (UE) 5.3 and Blueprints.
 - Added mechanics like health system, collectible items, and created AI controlled pursuer enemies, mortar enemies, player-enemy collisions for interaction.

SKILLS

Programming: C/C++, Python, SQL, x86 Assembly, Golang, MATLAB
Tools: Linux, Git, GDB, Unreal Engine5, GCP, MySQL