# William Lu

832-682-6054 chenjingkun65@gmail.com linkedin.com/in/william-lu-0x57-0x4c william-f-12.github.io

## Education

**University of Illinois Urbana-Champaign (UIUC)** May 2027
B.S. in Mathematics & Computer Science GPA: 4.0/4.0
**University of Wisconsin Madison** May 2024
B.S. in Computer Science (Transferred) GPA: 4.0/4.0

## Relevant Courseworks

- **Probability & Statistics for Computer Science (CS 361 In Progress):** Probability theory, visualizing datasets, Bayes theorem, Random Forest, SVM, Markov chains, linear regression, etc.
- **Algorithm Design & Computation Models (CS 374):** Algorithm paradigms (divide-and-conquer, DP, greedy, graph) and theory of computation (automata, Turing machines, NP-completeness).
- **Computer Systems Engineering (ECE 391):** Risc V, synchronization, interrupts, multitasking, and virtual memory through team projects. Build a simple Unix-like kernel.
- **Data Structures (CS 225):** Implemented fundamental data structures and algorithms; analyzed complexity and applied graph/tree search.

## Skills

**Languages:** Mandarin (Native), English (Fluent), Japanese (Functional)
**Technical:** C/C++, Python, Java, Unity, Git, PyTorch, Django, HTML, Javascript, CSS, LaTeX

## Projects

**Job Application Management Web App** Champaign, IL
Backend Engineer September 2025 – Present

- Developed a full-stack web application that helps users track internship and job applications in a 4-person team, built with React, Django REST Framework, and Docker.
- Designed and implemented backend REST-style APIs, database schema, and authentication modules to support tracking application status. Using OpenAI API to give user suggestion on skills to practice.

**Self-Supervised Representation Learning with SimCLR (PyTorch)** Personal
Independent Developer August 2025 – Present

- Implemented a SimCLR (Simple Framework for Contrastive Learning of Visual Representations) pipeline from scratch in PyTorch, including data augmentation, a ResNet encoder, projection head, NT-Xent loss, and evaluation.
- Explored scalability issues (GPU memory limits, large batch size) and applied techniques like gradient accumulation and efficient data loading.

**Personal Website Development** Personal
Independent Developer August 2024 – Present

- Designed and built a personal website from scratch using HTML, CSS, and JavaScript.
- Deployed the site via GitHub Pages to demostrate academic background, projects, and resume in a responsive, user-friendly portfolio format.

**Tiny-Chat** Virtual
Programmer & Assistant August 2025 – September 2025

- Coded for a multi-agent conversational environment framework, which allows large language models to simulate social interactions such as negotiation, persuasion, and collaboration.
- Implemented data loading and random sampling of agent profiles from databases (Local/HuggingFace datasets), and be able to save conversation to JSON file.

**Unix-like Kernel** Virtual
Programmer & designer May 2025 – August 2025

- Built a Unix-like kernel from scratch using RISC-V and C in a 3-person team, implementing multitasking, file system, virtual memory, etc.
- Deployed a 2-way associative cache, enabled process management and cross-process communication via a pipe. Wrote drivers for different devices such as block device and entropy device.

**Minerva Game Studio** Madison, WI
Game Programmer September 2023 – March 2025

- Coded for a student-run studio to develop a stand-alone roguelike game using Unity Engine, whose demo is released on steam.
- Designed and built skills (ability of game characters) and assisted implementing language localization to enhance gameplay and improve player adaptability.

**Cathaypath Institute of Science Research** Virtual
Research Group Leader April 2021 – August 2021

- Compared various Deep Learning models' ability in detecting one's mental health by analyzing social media posts.
- Led a student research group of 4 and co-published a paper on IEEE as a primary writer on Deep Learning's capacity in supporting people's mental health care.

## Leadership

**Association for Computing Machinery: SIGPwny** Champaign, IL
Active Member September 2024 – March 2025

- Practicing Cybersecurity and Hacking skills in a Special Interest Group that focuses on information security under the Association for Computing Machinery at UIUC.
- Cooperate with teammates in competing the Catch The Flag competitions using cybersecurity knowledge such as git, pwn, cryptography, etc.

**Eduphoria EdTech Co. Ltd.** Madison, WI
General Assistant September 2023 – May 2024

- Organized events such as info sessions and ted talks in Madison campus for newly founded Chinese Company focusing on international education.
- Edited videos using CapCut for the Marketing Department, and collected data for the IT department in order to expand influence and provide better service for students.

**National High School Game Academy** Pittsburgh, PA
Game Programmer June 2022 – August 2022

- Applied various disciplines of game design such as narrative, sound, art, and coding to make video games, which visualized the possibilities of Human Computer Interaction with Virtual Reality (VR) in the video game industry.
- Created 2 video games in teams: a remake of the classic arcade game Centipede and VR Archery game using Unity Engine and HTC VIVE pro 2 (headset).

**Game Design Club** Wheaton, IL
Founder & Leader September 2021 – June 2023

- Established a student club that focused on creating stand-alone computer video games, and hosted weekly meeting in which taught Python, C#, and Unity to members.
- Created a 2D Maze Game, 2D Platformer Game (like Mario), and developed a 3D game demo that utilized OpenAI API in non-player characters (NPC) to explore AI's capabilities to make NPCs more realistic and make the game more immersive.