

# Chengze "Cheng" Liu

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## EDUCATION

### University of Houston, Houston, TX

BS IN COMPUTER SCIENCE

MINOR IN MATH

GPA 4.0

Aug 2023 – Dec 2025

## KEY SKILLS

### Technical Skills

C/C++ • Python • C# • Java •  
Django • Flask • MySQL •  
PostgreSQL • R • Unity

### Relevant Coursework

Software Design • Database  
Systems • Algorithms and Data  
Structures • Data Science and  
Machine Learning • Game Art and  
Animation • Complex Analysis •  
Computer Networks • Operating  
Systems

### Language

Fluent in English and Chinese

## ACADEMIC EXPERIENCE

### Software Design Jan 2025 – May 2025

- Collaborated with a team of three to design, develop, and deploy a Django-based approval system using Agile methodologies.
- Created intuitive interfaces for request submission and approval, enabling multi-level approval and enhancing user experience across roles.
- Implemented Microsoft OAuth for secure user authentication and enforced role-based access control to maintain proper permission levels.
- Automated PDF generation for approval forms, streamlining documentation and improving efficiency.
- Integrated partner team's Flask-based components into a Django-Flask hybrid API, reducing development time by 80% and improving modularity.
- Developed using Python, HTML, CSS, and JavaScript; managed relational databases with MySQL and PostgreSQL; automated document generation using Makefile and  $\LaTeX$ ; used Docker to streamline deployment and package management.

### Game Art and Animation Jan 2025 – May 2025

- Designed two original game characters with three distinct animations each using Clip Studio Paint and Unity.
- Created custom background art and game assets using 2-point perspective drawing to enhance the game environment.
- Programmed character functionality and seamlessly integrated animations using C# in Unity.

### Data Science and Machine Learning Jan 2024 – May 2025

- Collaborated with a team of four to analyze the Concrete Compressive Strength dataset using R and Quarto for data preprocessing, analysis, and visualization.
- Applied statistical and machine learning methods, including linear regression, random forest, and cross-validation, to identify key predictors of compressive strength.
- Evaluated and compared model performance, successfully optimizing predictive accuracy and uncovering influential variables driving concrete strength.

### Intro to Programming Aug 2023 – Dec 2023

- Designed and developed a turn-based role-playing game (RPG) that enabled players to create custom characters and engage in combat against computer-controlled enemies.
- Implemented core RPG mechanics using C++ in Visual Studio Code, including character creation, turn-based combat, and enemy behavior.

## WORK EXPERIENCE

### Haidilao Hotpot Sep 2021 – May 2022

- Coordinated with a team of two to manage daily restaurant operations, ensuring efficient setup and closing procedures.
- Assisted with food, snack, and beverage preparation, maintaining smooth service and high customer satisfaction.