ENCHENG XIE

Address: Champaign, IL | Mobile: 630-520-8789 | Email: encheng2@illinois.edu
LinkedIn: https://www.linkedin.com/in/ecxie |Github: https://github.com/XYgugugu

Education

University of Illinois at Urbana-Champaign (UIUC) August 2021 - May 2026

- *Bachelors - Master of Computer Science*, **GPA: 3.98/4.00**
- Coursework**: AI/ML/Data Mining/Algorithm/Data Structures/System Programming**

Skills

- **Programming Languages:** Java, SwiftUI, C/C++, Python, JavaScript, WebGL2, HTML, React
- **Frameworks & Tools:** AWS, GCP, VisionOS, Unreal Engine 5, Git, SQL, Node.js

Work Experience

Carle Illinois College of Medicine | *Extended Reality (XR) Intern* June 2024 - July 2024

- Developed medical simulating application on **Apple Vision Pro** for complex and costly training
- Applied **WWDC24 technologies** to enhance application within **1 week of the release**
- Integrated **OpenAI API** on **AWS** to enhance gameplay by creating artificial characters.

PROJECT

PC Studio (Github) | GCP, Node.JS, SQL, React Sept 2024 - Present

- Designed an web application to help customize desktops with galleries of core components
- Created APIs to secure SQL queries from **7,000+** data entries of Google Cloud Database
- Deployed application to GCP with virtual environment setup for cooperation
- Designed caching system and pipeline to optimize handlers for API call from **900+ms to <250ms**

Honkai: Star Rail Simulator (Python, PyTorch) Present

- Construct **Policy Networks and Value Functions** to quantify advantages of each agent action
- Training model with **Proximal Policy Optimization** to produce optimal winning strategies

Rasterizer (Java) (Github) September 2023 - October 2023

- Simulated **WebGL2 API** creating images with text files as inputs
- Implemented **DDA and scanline algorithms** rasterizing triangles and pixels
- Enabled options for 3D images such as alpha-blending, multisampling, and back-face culling

Iplanner WebApp backend (Java) (Github) February 2023 - May 2023

- Created UIUC-4-Year-CoursePlan-Generator, allowing students to customize their academic plan
- Incorporated **Google OAuth 2.0** and **MongoDB** for **secure login** and data retrieval functionality
- Provided warnings when discovering irrational plans(lacking prerequisites, time conflict, etc.)

RESEARCH

UIUC - Efficient and Effective Knowledge Graph Retrieval for Question Answering (Python) Present

- Bridge gap between **Knowledge Graph** and **Retrieval-Augmented Generation**
- Fine-tune LLMs to generate more accurate response with knowledges from pre-trained models
- Extract information entities from input documents with LLMs
- Construct **Knowledge Graph** based on information entities for retrieval and question answering

UIUC - Crystallography Research (Unreal C++, Unreal VR) October 2023 - June 2024

- Developed PC-VR gameplay demonstrating crystallographic concepts for educational purposes
- Upgraded Input System to provide support and compatibility to Oculus, Xbox, and Keyboard
- Designed runtime 3D rendering functions with dynamic inputs at efficiently each frame