

Yunhan Huang

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EDUCATION

- **Purdue University** Indiana, US
Bachelor of Science - Computer Science; GPA: 3.68 *August 2019 - May 2023*
Courses: Problem Solving & OOP, Programming in C, Data Structures, Computer Architecture
- *Bachelor of Science - Game Design and Development* *August 2019 - May 2023*
Courses: Geometric Modeling Visualization and Communication, Computer Graph Programming, Computer Animation, Digital Light & Render, Game Development

EXPERIENCE

- **Undergraduate Research Assistant** *Aug 2021 - Present*
Kihara Bioinformatics Lab, Purdue University
 - **Data Clustering:** Protein structure clustering with domain information such as secondary structure, sequence similarity, and Structural Classification of Proteins from UCB
 - **Data Dimensionality:**
 - * Used cuML, a RAPIDS Machine Learning library, to perform initial data dimensionality reduction on all 3DZD data in a relatively faster speed.
 - * Applied PCA and t-SNE for feature dimension reduction for visualizaing.
 - * Adopted UMAP to finalize dimensionality reduction and generate clustering graphs for interactive webpage
 - **Interactive Graphs:**
 - * Effectively deployed ThreeJS for 3D clustering graph visualization.
 - * Used KNN algorithm on processed data to decrease total number of mesh objects for reduce rendering pressure.
 - * Provided basic interactive functions, searching, locating, showing PyMOL generated images, and etc.
 - * Integrated with 3D Surfer to provide better searching experience.
- **Undergraduate Teaching Assistant** *Aug 2022 - Present*
Purdue University
 - **Course::** Purdue University CS 240 - Programming in C
 - **Tutor Preparation:** Designed guide questions of course-related concepts and applications in C. Provided introductive tutor on VIM and Pico
 - **Communication & Assist:**
 - * Held office hours weekly, guided students to understand course concepts and to debug for project assignments.
 - * Assisted over 100 students to consolidate their understanding in the course difficulties.
- **Programmer** *Aug 2019 - Aug 2020*
Game Developer Union
 - **Project Overview:** Used Unreal Engine 4 for the entire game production with supports of basic I/O functions and realistic physic simulation.
 - **Feature Implementation:** Achieved more steady and bug-less game with the Unreal Engine 4 scripting node system.
 - **Large-Scale Teamwork:** Applied professional communication skills to lead and coordinate team members

PROJECTS

- **Simple Biography Program:**
 - A program that allows small amount of users to communicate under the same wifi network, and also has basic friend list and personal biography page.
 - Implemented multi-thread structure and web-socket in Java for multiple user synchronously login.
 - Designed user information storage data system, and password verification & resetting.
- **Apple Gundam Run:**
 - A novel database with web-based 3D graphic visualization tool for the global mapping of protein surface shapes.
 - Implemented real time interactive animation by UE4 built-in environment.
 - Designed full pipeline for game and coordinated team with progress checklist.
 - Adopted ideas of dynamically generated game level maps from PCG to improve gameplay experience.

SKILLS SUMMARY

- **Languages:** JAVA, JavaScript, HTML/CSS, Python
- **Frameworks:** ThreeJS, NodeJS, NumPy
- **Soft Skills:** Leadership, Team Work, Writing, Public Speaking, Time Management