Yunhan Huang

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Education

- **Purdue University** — Indiana, US
  Bachelor of Science - Computer Science; GPA: 3.74 — *August 2019 - May 2023*
  Courses: *Problem Solving & OOP, Data Structures, Computer Architecture*
- *Bachelor of Science - Game Design and Development; GPA: 3.74* — *August 2019 - May 2023*
  Courses: *Geometric Modeling Visualization and Communication, Computer Graph Programming, Computer Animation, Digital Light & Render, Game Development*

Skills Summary

- **Languages**: JAVA, JavaScript, HTML/CSS, C/C++, Python
- **Frameworks**: ThreeJS, NodeJS, NumPy
- **Tools**: GIT, Latex
- **Platforms**: Linux, MacOS
- **Soft Skills**: Leadership, Team Work, Writing, Public Speaking, Time Management

Experience

- **Kihara Bioinformatics Lab**
  Undergraduate Research Assistant — *Aug 2021 - Present*
  - **Main focus**: conducted research on protein 3DZD data by examining the proteins clusters generated by dimension reduction and their attributes (dictionary of secondary structure of protein, sequence similarity on protein, and Structural Classification of Proteins from UCB)
  - **Data Dimensionality**: Using cuML, a RAPIDS Machine Learning library, to perform initial data dimensionality reduction(PCA and t-SNE) on all 3DZD data in a relatively faster speed. Mainly use UMAP to finalize dimensionality reduction and generate clustering graphs for later interactive webpage
  - **Interactive Graphs**: Implementing 3D computer graphics and displaying cluster graphs on webpage using ThreeJS. Also used KNN algorithm on processed data to group close cluster points for reduce rendering pressure. PDB Universe webpage provided basic interactive functions, searching, locating, showing PyMOL generated images, and etc. Integrated with 3D Surfer to provide better searching experience.

- **Game Developer Union**
  Programmer — *Aug 2019 - Aug 2020*
  - **Game engine**: Mainly use Unreal Engine 4 for the entire game production, which provides basic I/O functions and realistic physic simulation.
  - **Feature Implementation**: Achieve more steady and bug-less game, used C++ programming language along with the Unreal Engine 4 scripting node system.
  - **Large-Scale Teamwork**: Skilled use of GIT for large-scale group project work, and professional communication skills with other project groups at weekly group progress meeting

- **Purdue University**
  Academic Tutor — *Aug 2021 - Dec 2021*
  - **Communication & Assist**: Held 1-on-1 tutoring sessions, guided debugging help for students who is struggle in their current course works. Assisting over 20 students to solve their confusion and strengthen their understanding in the course difficult concepts in Java and C programming. Also provide help and basic use of IntelliJ IDEA, CLion, and MS VS Code.
  - **Courses**: CS 180, CS 182, CS 240

Projects

- **Simple Messaging 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 & changing.

- **Apple Gundam Run**: A 2D-platform game based on Unreal Engine 4, three levels(10-minute) of game-play.
  - Designed game levels from scratch, coordinates 5-member team, hold weekly group meetings for progress checking, present to other developers.
  - Connecting animation segments to corresponding user interaction by UE4 built-in environment.
  - Programming for procedural generated game level maps and decorating mesh objects with C++ and built-in scripting node system.