

Yiyang Chen

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EDUCATION

- University of Southern California** GPA: 4.0/4.0 Aug. 2021 – Excepted May. 2023
M.S. in Computer Science (Game Development Track) *Los Angeles, CA*
- Courses: Game Projects, Rendering, Game Design, Game Engine, Game Production, Game Narrative, Algorithms
 - Co-founder of Rousong Game Club
- The University of North Carolina at Chapel Hill** GPA: 3.81/4.0 Aug. 2018 - Jun. 2021
B.S. in Computer Science, B.S. in Mathematics *Chapel Hill, NC*
- Courses: Computer Foundations, Data Structures, Calculus, Linear Algebra, Numerical Analysis, Serious Game
 - Phi Beta Kappa, Member of Go Club

SKILLS

Language: C++, C#, C, HLSL, Java, Python, HTML, CSS, JavaScript, SQL, MATLAB
Web/Mobile: React (Redux), Node.js, Express, MongoDB, RESTful, AJAX, JQuery,
Tools: Unity, Git, Perforce, Visual Studio, Photoshop, Premiere, LATEX, MySQL, Jupiter Notebook, LINUX

EXPERIENCE

- Corvid Technologies** May 2019 - Jul. 2019
Software Engineer Intern *Mooreville, NC*
- Built a **parallel (MPI) balance octree** with an algorithm that uses a special array that only saves important nodes which saves more memory and balances faster than company's previous algorithm.
 - This algorithm balances the octree **10 times faster** than company's previous algorithm.

- Haivuesail Automation Technology** Jul. 2017 – Aug. 2017
Software Engineer Intern *Shanghai, China*
- Developed a website which allows users to input product information and related data to a **SQL** database.
 - Constructed the full stack of the webpage using **HTML**, **CSS**, and **JavaScript**, which exchanged data between SQL database and webpages using **AJAX**, **C#**, and **SQL**.

- Imperial College London** Jun. 2020 - Aug. 2020
Research Member - Advised by Prof. Lucia Specia *Remote*
- Built **NLP FFNN, CNN and RNN** models with **Word2Vec** and **Doc2Vec**.
 - Participated in a competition Assessing the Funniness of Edited News Headlines and ranked **Top5**.

SELECTED PROJECTS (Check my personal website for more projects)

- Project Base** Aug. 2021 – Present
- Constructed a self-maintained template framework using **C#** that helps quick deployment for any **Unity** project.
 - Built efficient **singletons** like Event System, Object Pool, Resource Manager, Data Manager, and more.
 - Developed some useful templates and features like **inventory system**, **shaders** and **3DUI**.
 - Provided **middlewares** using **C#** to efficiently bridge **Unity engine** with the other packages and plugins.
 - My game projects, **Hooked in Space** and **Eye 4 Eye** are developed based on this package.

- Prime Engine** Aug. 2022 – Dec. 2022
- Built some of Prime Engine's components based on the code base provided.
 - Added **culling** feature to the renderer using **C++**.
 - Developed **physics component** using OBB collider with **C++**, allowing sphere collider to slide away when a collision is detected and fall down according to gravity if not standing on the ground.
 - Implemented **wind effect** on plants using **C++** and **HLSL**. Meshes closer to the wind source will have a stronger wind effect. Vertices will be influenced heavier if they are farther from the ground.
 - Designed NPC routing AI using **navigation mesh**, **Bezier Curve** and **A* algorithm** with **Maya** and **C++**.

- Eye 4 Eye** Aug. 2022 – Expected May. 2023
- Drove the programmer team in a **Unity** game project that more than 20 students in various fields work together.
 - Coded shaders like pixelization shader using **HLSL** and **URP**, allowing any 3D object to be shown in pixel.
 - Applied and adjusted the **Project Base** project, providing features like **Event System**, **Input System**, **2D/3D UI**, **Inventory**, and bridges to **Yarn Spinner** and **FMod**. Made videos for my teammates using **PR**.

- Hooked in Space** Jan. 2022 – May. 2022
- Designed and coded all the gameplay, features, and shaders in the game using **C#**.
 - Managed 6 sprints with 4 milestones from preproduction to final-released by applying burndown chart and **agile software development**. All the important features and 95% of the other features are delivered on time.
 - Managed communications between me, art, and audio team members by holding regular meetings and using game design macro. Kept everyone on the same pace and solved all the time conflicts to deliver features on time.