**CHONGYANG WANG**

+1(608)-421-3763; gw2437@tc.columbia.edu

LinkedIn: [www.linkedin.com/in/chongyang-wang-cwang643](http://www.linkedin.com/in/chongyang-wang-cwang643)

Portfolio Website: <https://garythekid.github.io/>

**EDUCATION**

**Columbia University** New York City, NY | Sept 2021- May 2023

* Master of Arts in Instructional Technology; GPA (4.03/4.0)

**University of Wisconsin-Madison**  Madison, WI | June 2018 - Sept 2021

* Bachelor of Science in Computer Science; GPA (3.663/4.0), Major GPA (3.766/4.0)
* Certificate in Game Design; GPA (4.0/4.0)

**RESEARCH EXPERIENCE**

**Columbia CGUI (Computer Graphics and User Interface) Lab** New York City, NY | May 2022 - Present

*Research Assistant (Supervisor: Prof. Steven K. Feiner)*

* Work as a research assistant, HCI, VR/AR, 3DGUI researcher, designer and developer with *Prof. Steven K. Feiner, Prof. Barbara Tversky and* *Ph.D. Jen-shuo Liu*
* Iteratively design and develop VR/AR research software systems
* Contribute creative ideas to research discussions and intensively work on research tasks (data collection/analysis, lead pilot/user study, etc.)
* Assist in publication posters and papers composing
* **Project: *Future Manufacturing Research Grant (FMRG) - Multi-Sites*** *(In Progress)*
* Research efficient 3D GUIs to facilitate future manufacturing workers to manage parallel tasks in VR and better perform multi-human-robot teleoperation and collaboration
* Produced promising deliverables for multiple publications, including an accepted publication: ***A Testbed for Exploring Virtual Reality User Interfaces for Assigning Tasks to Agents at Multiple Sites* has been accepted by ACM SUI 2023**
* Funded in part by U.S. National Science Foundation Grant CMMI-2037101
* **Project: *FMRG* - Gaze-Collab** *(In Progress)*
* Aim to research human-centered multi-user hand-gaze coordination and interactions in a collaborative environment in VR/AR

**Cognitive Science Graduate Student Researcher** New York City, NY | Apr-May, 2022

*Researcher (Supervisor: Prof. Peter Gordon)*

* Work as a HCI, cognitive researcher
* Designed and developed research using Tobii Lab and Tobii Eye Tracker
* **Project: Eye-tracking Methods in User Behavior Analysis** *(Completed by May 2022)*
* Aimed to find interesting connections between players' experience level in First-Person Shooter (FPS) game and their crosshair pre-aiming positioning preferences
* Collected and analyzed gaze data from 4 players with various FPS game expertise
* Composed the research report: *FPS Game Aim Strategy - A Critical Analysis of Crosshair Pre-placement Based on Eye-tracking Methods*

**Columbia TC Game Research Lab** New York City, NY | Oct 2021 - May 2023

*Lab Assistant (Supervisor: Prof. Joey Lee)*

* Researched instruction and learning theory to enhance the learning experience
* Built interactive non-traditional game-based course materials in Unity, creating immersive learning experiences
* **Project: Novel Unity Tutorials for Beginners** *(Completed by March 2023)*
* Designed multiple beginner-friendly tutorials based on Constructivism theory and problem-oriented methodology
* Tutorials cover engine basics, game design/dev intro, GPT integrated workflow, networking

**INDUSTRY EXPERIENCE**

**Unity Technologies.** Remote | July 2023 - Present

*Instructional Designer*

* Work as an Unity officially verified online course designer for Unity Learn Platform CN
* Recently focus on topics of AIGC (ChatGPT, prompt engineering), XR (AIGC empowered metaverse)
* Target and optimize for the Chinese language developer community
* Be the author of the first Chinese Unity + GPT full stack game producing course
* **Project: *Verified Unity Course: A Comprehensive GPT Game Production Case-based Tutorial***
* Developed structured tutorials systematically reviewing methodologies for using ChatGPT in game production context
* Covered prompt engineering use cases for game production lifecycle
* Included multiple mini-case studies in each chapter and a project assignment

**PUBLICATION**

**A Testbed for Exploring Virtual Reality User Interfaces for Assigning Tasks to Agents at Multiple Sites**

ACM SUI 2023, Sydney | August 2023

* Authors: Jen-Shuo Liu, Chongyang Wang, Barbara Tversky, Steven Feiner
* Archived link: doi.org/10.1145/3607822.3618004

**SKILLS**

**Programming:**

* **Proficient with** multiple programming languages including C#, C++, Java, Python, Javascript, Dart
* **Experienced in** algorithm, software engineering, VR/AR, networking, UI & graphics, AI, AIGC(GPT) APIs, web dev (HTML, CSS)

**Game/XR Development:**

* **6 years’ experience with** Unity Engine
* **Experienced in** scripting, animation, UI, physics, cross-platform (XR, Mobile), multiplayer
* **Proficient with** SDKs for XR Development, such as Varjo, Oculus, SteamVR, HpOmnicept Unity SDK

**AIGC:**

* **Experienced in** multiple AIGC applications, GPT plugins/APIs, and prompt engineering

**UI/UX:**

* **Proficient with** designing and developing 3D GUI, user flow, and Figma
* **Skillful in** user-centered design and research

**Instructional Design & Cognitive/Learning Science:**

* **Experienced in** course/instructional design, public speech
* **Familiar with** educational/cognition concepts, technologies (Eye-tracking), and their application

**Collaboration, Communication, Management & Leadership:**

* **Comfortable with** collaborative environment, collaboration tools and platforms

**OTHER PROJECTS**

**Fallacy Finder: AI-Powered Disinformation Plug-in** New York City, NY | Apr-May, 2023

*Researcher, UI/UX Designer*

* Addressed linguistic devices in news articles that perpetuate harm against minoritized groups
* Developed a browser plugin to identify propaganda techniques and provide educational content
* Aligned with a commitment to social justice and equity, aiming to empower minoritized groups to recognize and challenge harmful media messages

**VR Serious Game: Combat Public Misconceptions on Climate Change** New York City, NY | Mar-May, 2023

*Designer, Researcher*

* Designed a serious VR game to combat public misconceptions and skepticism about climate change
* Aimed to increase empathy and understanding of climate change's impact on communities and ecosystems
* Created a first-person role-play game to correct misconceptions, provide scientific information, and motivate climate action
* Utilized persuasive techniques to engage users and encourage them to take action against climate change

**AR plus Gaze: Assisting Deep Water Task Visualization and Collaboration** New York City, NY | Mar-Apr, 2022

*HCI, AR Researcher*

* Investigated the use of neural interfaces and augmented reality to aid deep-water archaeologists working in physically challenging conditions
* Proposed combining AR and eye-tracking, to enhance collaboration and visualization for underwatch tasks assigning and information denotation

**Unity VR Project Innovation Network Award: Physics Wonderland** New York City, NY | Mar-Apr, 2022

*VR Developer, Project Manager*

* Led VR development and project management efforts
* Utilized VR technology to enhance students' understanding of physics through immersively constructing, driving their own machineries in sandbox/levels while visualizing generated data during motion
* Incorporated game-based learning and construction theory to enhance students’ learning motivation
* Integrated game-based learning and construction theory to boost student motivation and creativity
* Selected for showcase and presented the project to investors, highlighting its innovation in education

**Unity AR Project - Visualize Complex Math Functions**  New York City, NY | Jan-Mar, 2022

*AR Developer, Designer*

* Implemented a procedural graphics generation scheme for rendering 3D mathematical function graphs
* Designed system handling user natural language input to meshes projecting in AR

**Serious Game Design: Board Game - "Flooded"** New York City, NY | Oct-Dec, 2021

*Designer, Project Manager*

* Led the design of the core game concepts and mechanics
* Illustrated the urgency of global cooperation for solving global issues like climate change, inspired by the contentious attitudes and hegemonic confrontation of major global powers during the pandemic
* Awarded and archived as “The Best Board Game Design 2021” prize with a $750 reward at TC Columbia 4039 Final Demo

**Unity VR Game Prototype - “VR Museum: Time Traveler”**  New York City, NY | Oct-Dec, 2021

*Designer Lead, Programmer*

* Led design and programming for "VR Museum: Time Traveler," a user-centered VR experience in Unity
* Immersed users in historical exploration, fostering intuitive HCI through interactive artifacts and narratives
* Combined technology and user-centric design to create an engaging, educational VR environment

**Gamified Profile Webpage** New York City, NY | Oct-Nov, 2021

*Full-Stack Programmer*

* Designed a captivating personal profile webpage with gamified elements on Codepen.io
* Developed a native JavaScript rendering engine to create engaging game-based web navigation experiences, embed 3 mini-games and an Easter egg

**Unity Multiplayer Game Project - “One Man Army”**  Madison, WI | June-Dec, 2020

*Full-Stack Programmer*

* Iterative prototyped with battle royale mechanism, character controllers, weapon/skill systems, animation
* Built networking server and multiplayer mechanics using Photon
* Programmed UI workflow and interfaces in UGUI

**Software Engineering Project - Alternative for Discord, “Game Haus”** Madison, WI | Sept-Dec, 2019

*UI/UX Designer, Front-end Programmer*

* Designed and prototyped UI and user flow, implemented SVC framework
* Embedded multiple games (Overwatch, League of Legend, etc.)’ APIs to login/stats interfaces
* Used Flutter as front-end, Google Firebase as back-end, participating team collaboration via Github