

Jiayi (Louise) He

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EDUCATION

University of Rochester

B.S. in Computer Science & B.A. in Digital Media Studies & B.A. in Psychology

- Cumulative GPA: 3.95/4.00 (*Dean's List* for all eligible semesters)

Rochester, NY

August 2019 – (Anticipated) May 2023

PUBLICATION

- Color-Perception-Guided Display Power Reduction for Virtual Reality
Budmonde Duinkharjav, Kenneth Chen, Abhishek Tyagi, **Jiayi He**, Yuhao Zhu, Qi Sun
ACM Transactions on Graphics 41(6) (Proceedings of ACM SIGGRAPH Asia 2022)

RESEARCH EXPERIENCE

UR CS Horizon Lab: Jamestown 3D Reconstruction Project

Rochester, NY

Research Group Leader, 3D Modeler

August 2022 - Present

Advisors: Dr. Yuhao Zhu, Computer Science, University of Rochester; Dr. Michael J. Jarvis, History Department, University of Rochester

- Lead the research group in using Metashape to construct 3D models of the terrain and the architecture in the Jamestown relics.
- Restore, assemble, and refine these models through Blender and Unity.
- Build a VR application to recreate the Jamestown relic virtually in fine detail using Oculus Quest.
- Implement interactive elements on the VR interface to enable real-time user interactions with the elements in the relics.

UR CS Horizon Lab: VR Rendering Energy Optimization Research Project

Rochester, NY

Research Assistant

February 2022 – December 2022

Advisor: Dr. Yuhao Zhu, Computer Science, University of Rochester

- Designed a rendering algorithm that saves display power up to 24%, with limited perceptual fidelity degradation given the visual perception of human eyes is more severely impaired during saccade *ceteris paribus*.
- Utilized VR devices with an eye-tracking system *Vive Pro Eye* to track saccade, render target object, measure display power.
- Gave a presentation on the research findings at SIGGRAPH Asia 2022, a global technical conference focusing on Computer Graphics.

WORK EXPERIENCE

XiaoShanHe Puzzle Solving & Cooperation Unity Game Project

Rochester, NY

UI/UX Designer/Planner, Game Programmer

September 2021 - Present

- Designed and based the storyline for the puzzle-solving and cooperation game *XiaoShanHe* on Taoist ideology, a Chinese worldview.
- Constructed user interfaces for different player functions within the game using object-orientated principles and generated output sketches.
- Implement various responsive UI elements within each game level in Unity using C#.

Project GC Game Design & Development Community

Chengdu, China & Rochester, NY

Manager, Front-End Developer

January 2021 - Present

- Manage multiple Project GC media platforms including the WeChat official account, Bilibili, and GCORES by publishing articles and videos on game evaluations and the analysis of trends in the current game industry.
- Achieved an exponential growth rate of followers and attracted 2,000+ followers for the WeChat official account due to the creation of optimized contents.
- Organized a variety of popular game design and development-related activities, including the Game Production Workshop, GC Seminar, GC Game Night, and Game Jam, which resulted in the recruitment of 200+ members to the Project GC community.
- Designed using Figma and built UI for the Project GC website with HTML, CSS, and JavaScript.

WeChat Mini Program Development

Chengdu, China & Rochester, NY

Front-end Developer, App Developer

September 2018 - Present

- Built, deployed, and pitched a WeChat mini program *ZHER* to assist tourists in exploring hidden gem locations in different cities which attracted 200+ users.
- Developed a WeChat mini program for the Pocket Money charity club in Chengdu Foreign Languages School which systematizes management functions, such as facilitating attendance management and announcement deliveries, and is still being used today.

Tencent i-MUR & 99 Creative Game MOD Monitoring & Analysis Project

Shanghai, China & Rochester, NY

Researcher, Monitor

September 2021 - January 2022

- Monitored the creative game modifications based on DOTA2 and Minecraft.
- Summarized and analyzed the characteristics of each popular modification, including the newly added elements and game mechanisms, by producing regular analysis reports to document the findings.
- Analyzed and evaluated player feedback for different game elements by applying mathematical models and automatic data collection in Python using libraries such as pandas and scikit-learn.

Tencent i-MUR & 99 Future Media Signal Station (Overseas) Project

Shanghai, China

Research Group Leader

August 2020 - December 2020

- Gathered information on relevant popular culture elements based on the current overseas media market.
- Led and managed a 4-person group to conduct user research within worldwide online gaming communities through different media platforms, including WeChat, GCORES, and Discord, to collect global players' feedback on the popular game elements in the market.
- Analyzed the various trends and delivered subsequent research reports.

SKILLS

- Proficient in Microsoft Office Suite.
- Programming Languages:** Proficient in Java, Python, C, C#, JavaScript, and Swift
- Image & Video Processing:** Proficient in Adobe Suite and Final Cut Pro
- 3D Modeling:** Proficient in Metashape, C4D, Blender, and Unity
- Language:** Chinese (Native), English (Fluent), Italian (Conversational)