LIHENG WEI

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Highlight

Possess a solid foundation in computer science and mathematics, with strong proficiency in C++ programming and Unreal Engine 5. Familiar with technical implementations of game engine and capable of efficiently solving problems.

Education

University of Southern California, Los Angeles, CA
M.S. in Computer Science (Game Development) -May 2026
Huazhong University of Science and Technology (HUST), Wuhan, China
M.S. in Computer System Architecture (GPA: 3.83/4.00) -Jul 2024
B.S. in Information and Computing Science (GPA: 3.77/4.00) -Jul 2021

Project/Research Experience

***Lead Software Engineer*, USC & Sony Pictures Entertainment Inc., Los Angeles, CA**
Project: Transmedia Challenge - Visualized Music Composition and Education XR Experience Oct-Dec 2024
• **Unreal Engine**: Designed and implemented an interactive, editable, and immersive music visualization system featuring rhythmic animations in Unreal Engine.
• **Audio Engineering**: Integrated real-time pitch detection for separated audio sources, providing precise visual feedback. Developed highly interactive and customizable spatialized audio player using Unreal's MetaSound System.
• **VR Interaction:** Developed VR levels for Meta devices, enabling note recognition for XR instrument control and enhancing immersion in virtual music practice.

***Graduate Research Assistant*, EPIC HUST, Wuhan, China**
Project: Synchronizing Simulations APP Development for Dragon Boat Athlete Training in Unity Jan-Oct 2022
• **Unity C# Scripting:** Developed synchronized racing scenarios and game entities in Unity, scripting the boating system, water environment, and user interfaces. Integrated real-world motion data to enable interactive gameplay system.
• **Motion Tracking:** Implemented character animations using an Animation State Machine, synchronizing body gestures with non-inductive electromagnetic sensors to deliver real-time responses and visual guidance for athletes.
• **Cross-Disciplinary Collaboration:** Worked closely with a team of over 10 members, including athletes, visual designers, and electrical engineers, ensuring seamless integration of technical and athletic requirements.

***Graduate Research Assistant*, EPIC HUST, Wuhan, China**
Project: Multiclass Cancer Diagnostics Systemwith RNA-seq of Tumor-Educated Platelets Nov 2022-Aug 2023
• **Python Programming:** Optimized gene selection analysis by implementing feature selection methods (SVM-RFE, Random Forest, Binary PSO) on GPU. Developed a custom graph neural network based on PyTorch structure.
• **Online Service:** Designed and maintained a robust API on a Linux server, enabling collaborative hospitals to securely access and utilize the diagnostic calculation model.
• **Algorithm Design**: Developed an innovative double-layered graph structure for efficient RNA-seq data storage and applied graph embedding techniques, achieving over 0.7 multiclass accuracy across 13 cancer types.

Internships

***Game Analyst Intern*, Soonyo Technology Co., Ltd.,** Chongqing, China Jul-Aug 2021
Project: Mobile Game Player Activity Monitor and Anti-cheating Management
• **Game System Tuning:** Leveraged data insights to refine game systems, adjust reward settings, and address bugs or potential player misbehaviors. Collaborated with level designers to review daily data, discuss improvements, and recommend updates or patches to enhance the game experience.
• **Data Monitoring:** Utilized SQL database to analyze player activities and trained an RNN-based program to monitor user behaviors, reducing risks of cheating and abuse by detecting anomalous event sequences.

***Data Analyst Intern*, NetEase Games,** Wuhan, China Jul-Aug 2020
Project: Statistical Learning for Player Engagement and In-Game Purchasing Behavior in Tianxia III
• **Data Analysis:** Manually categorized game items and analyzed player engagement to identify correlations between item purchases, in-game events, and player preferences. Developed a statistical model using XGBoost's Gradient Boosting techniques, achieving 45% accuracy in predicting top-purchased items from a catalog of 8,000.

Skills

Programing: C++, C#, Python, GLSL.
Game Engine: Unreal, Unity.
Data Analysis: Pytorch, Tensorflow, R.