

James (Ziqi) Liu

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Education

Cornell University, College of Arts & Sciences

Bachelor of Arts in Computer Science & Minor in Physics

Ithaca, NY

May 2025

University of Utah, Division of Games

Master of Entertainment Art and Engineering

Salt Lake City, UT

(Expected) May 2027

Technical Skills

- **Programming Languages:** Python, Java, C, C#, C++, OCaml
- **Game Development Tools:** Unreal 5, Unity, LibGDX, Tiled, Box2D, Visual Studio, Rider, Maya

Project Experience

AI and Technical Art Tools Engineer Intern

May - August 2026

Lightspeed Studio @ Tencent Games

Shenzhen, China

- Developed **Python-based Maya and Blender tools** to automate animation retargeting, asset validation, and rendering workflows.
- Converted core tools into **reusable Skills** for Tencent's internal agent platform, with automated validation and traceable execution.
- Designed **multi-stage concept-art ideation workflows** that supported artist-directed candidate selection and consistent handoffs between stages.

Technical Director Intern

June - July 2025

Enlight Media Co., Ltd., Animation Department

Beijing, China

- Implemented a **Python-based network sniffing client** to capture real-time motion-capture packets broadcast by an open-source app, enabling any machine on the internal LAN to access live mocap streams.
- Reverse-engineered and parsed raw hex packet formats into numeric pose data; built a reliable parser pipeline to convert network frames into animation-ready values.
- Reduced noise and data volume by designing a keyframe-reduction and denoising algorithm (improving stability and lowering bandwidth/storage for downstream animation workflows).

Behavior Tree Framework for Cornell University Game Library

September - December 2024

Cornell University

Ithaca, NY

- Designed and implemented a behavior tree framework in C++ for the Cornell University Game Library to support future coursework and projects.
- Conducted a horizontal analysis of implementations across Unity, LibGDX, and CUGL to identify best practices.
- Streamlined class hierarchy with function pointers, reducing the need for inheritance and enhancing performance.
- Enabled concurrent execution of multiple blackboard instances on one behavior tree for efficiency and modularity.

Alternate Controller Horror Game Developer

January 2026 - Present

University of Utah

Salt Lake City, UT

- Designed a **rotary phone-based alternate controller** for an Unreal Engine game, integrating Arduino hardware to read rotary dial pulse signals as gameplay inputs.
- Developed a **computer vision attention-tracking system** using p5.js and MediaPipe that detects whether the player is looking at specific monitors and streams gaze data to Unreal Engine via Open Sound Control (OSC).
- Integrated **real-time speech recognition** to convert player voice from the phone handset microphone into gameplay text input used to report anomalies and interact with the virtual assistant.
- Implemented a **multi-device audio pipeline** by sending runtime commands from Unreal Engine to VLC, enabling simultaneous audio playback through the rotary phone speaker and external system outputs.

Extracurricular Activities

Cornell University Chinese Basketball Club

September 2022-May 2025

- Participated in the seasonal basketball competitions
- Refereed friendly matches between basketball clubs

Physics Department Undergraduate Teaching Assistant

August 2023-May 2024

- Work as an undergraduate TA for introductory mechanics and electromagnetism courses
- Lead weekly discussion sessions and help students understand new concepts & mathematics each week

Skills and Interests

Language Skills: Fluent in Mandarin.

Interests: AAA Video Games, Movies, Folk & Indie & Post Rock Music