

PINCUN LIU

235 W 48 St, New York, NY 10036 • (917) 690-9751 • pl2253@nyu.edu

EDUCATION

New York University

Bachelor's Degree in Computer Science and Game Design

Minor in Mathematics

Cumulative GPA: 3.94 / 4.00

New York, NY

Sep. 2021 – May 2025

PROFESSIONAL EXPERIENCE

Silverjay Studio

Founder, President, Lead Programmer

New York, NY

Sep. 2021 – Present

- Founded a startup game studio in New York in 2021, recruited and led a team of 22, developed 5 independent games showcased in major events and competitions internationally.
- Received 3 national awards and 6 award nominations as of Sep. 2024.
- Developed and refined mature technical and management skills for team collaboration, developed a professional software framework SKCell (<https://github.com/Skyrim07/SKCell>) with 120+ GitHub stars.

Hypergryph Inc.

Game Engineer Intern

Shanghai, China

May 2024 – Aug. 2024

- Designed and implemented 3 gameplay systems from scratch using Unity, C#, and Lua, including the water cycle system, the breakable object system, and the character navigation system.
- Researched and implemented algorithms for geometric procedural generation, such as concave polygon generation, mesh collider subdivision, etc. The results were presented in the company's internal lecture series in August 2024.
- Performed in-depth communication across multiple departments and wrote 20+ detailed technical documents.

Gameloft Inc.

Software and Graphics Engineer Intern

Remote

May 2022 – Aug. 2022

- Developed NPR and PBR shaders for character and environment rendering using HLSL.
- Implemented character movement and combat behavior using behavior trees and goal-oriented programming.
- Developed in-editor Finite State Machine tool for editing character animation and logic. The tool is deployed to 3+ other projects in the company.

NetEase Inc.

Game Engineer Intern

Hangzhou, China

Jul. 2020 – Nov. 2020

- Researched and implemented soft-body physics for cloth rendering based on mass-spring systems and compute shaders.
- Optimized game logic and rendering efficiency by a maximum of 4.1ms /sec using RenderDoc and the Unity profiler.

RESEARCH EXPERIENCE

NYU Future Reality Lab

Research Assistant

New York, NY

Oct. 2023 – Present

- Initiated and participated in 3+ research projects in Computer Graphics, Human-Computer Interaction, and mixed reality applications. Mentored by Prof. Ken Perlin.
- Project "A Collaborative Multimodal XR Physical Design Environment" accepted to SIGGRAPH Asia 2024; full paper "A Survey on Audio-influenced Pseudo-Haptics: Methods, Applications, and Opportunities" submitted to SIGCHI 2025.

NYU Courant Institute of Mathematical Sciences

Research Group Leader

New York, NY

Sep. 2024 – Present

- Initiated a research project on Machine-Learning-Based methods in Smooth Particle Hydrodynamics. Researched and developed a framework using Unity, Qt, C#, C++, and Python. Mentored by Prof. Gizem Kayar.

NYU Courant Institute of Mathematical Sciences

Research Group Leader

New York, NY

Jun. 2023 – May 2024

- Led a research group of 4 people on a project regarding Computer Graphics education. Researched and developed an application for students to learn the material interactively. The resulting application was distributed to 100+ students in the undergraduate Computer Graphics course starting from Spring 2024. Mentored by Prof. Gizem Kayar.

NYU High Speed Research Network

Undergraduate Researcher

New York, NY

Dec. 2023 – May 2024

- Researched and developed techniques for synchronization and distribution of real-time motion capture data across Unreal, Unity, and WebXR clients using C++, C#, and JavaScript. Mentored by Prof. Robert Pahle.

TEACHING EXPERIENCE

NYU University Learning Center

Learning Assistant

New York, NY

Sep. 2024 – Present

- Courses: MATHUA-121, 122, 123 Calculus I, II, III
- Held three 120-min sessions every week for focused one-on-one tutoring.

NYU Courant Institute of Mathematical Sciences

Teaching Assistant

New York, NY

Sep. 2024 – Present

- Course: CSCIUA-202 Operating Systems by Prof. Michael Walfish
- Led a 75-min recitation lecture three times a semester, hosted a 120-min office hour every week, responsible for grading 2 major assignments, 2 minor homework, and the midterm & final exams.

NYU Courant Institute of Mathematical Sciences

Grader & Tutor

New York, NY

Jan. 2024 – May 2024

- Courses: CSCIUA-480 Computer Graphics by Prof. Gizem Kayar
- Led 150-min office hours twice a week, responsible for grading all assignments and quizzes for the course.

NYU Tisch School of the Arts

Teaching Assistant

New York, NY

Sep. 2023 – Dec. 2023

- Courses: GAMESUT-121 Intermediate Game Development by Prof. Karina Popp
- Led in-class discussion sessions twice a week, responsible for grading all the assignments and game projects for the course.

Bilibili.com / Youtube.com

Online Instructor

Online

Jan. 2023 – May 2024

- Self-designed and taught 45 video courses (~75 hrs) on game development and computer graphics. (<https://www.alexliugames.com/courses>)
- Received 300k+ views, 9k+ students, and 18k+ likes as of Sep. 2024.

PUBLICATIONS

Keru Wang, **Pincun Liu**, Yushen Hu, Xiaolan Liu, Zhu Wang, and Ken Perlin. (2024). A Collaborative Multimodal XR Physical Design Environment. In *SIGGRAPH Asia 2024 Extended Abstract* (pp. 1-2).

Keru Wang, Yi Wu, **Pincun Liu**, Zhu Wang, Agnieszka Roginska, Qi Sun, and Ken Perlin. (2024). A Survey on Audio-influenced Pseudo-Haptics: Methods, Applications, and Opportunities. In *Proceedings of the CHI Conference on Human Factors in Computing Systems* (pp. 1-25). (In submission)

HONORS & AWARDS

Best Game Grand Award , 4 th China University Student Game Awards (1 st place/2000+ competitors)	2024
Best Narrative Award Nomination , 4 th China University Student Game Awards	2024
SIGGRAPH Asia 2024 Conference Acceptance	2024
Best Overall , Global Game Jam 2023 (New York)	2023
Best Overall , Global Game Jam 2022 (New York)	2022
Best Visual Award Nomination , 2 nd China University Student Game Awards	2022
Best Overall , Global Game Jam 2021 (Shanghai)	2021
Best Student Game Honorable Mention , Independent Game Festival 2021	2021
Best Technology Award , NetEase MiniGame Challenge	2020
Best Visuals Award , NetEase MiniGame Challenge	2020
Best Student Game Nomination , IndiePlay - China Indie Game Awards 2020	2020
Excellent Student Game Award , 2 nd China Art Games Competition	2020
Gold Award , China Academy of Art “LinFengMian” Awards	2020

GRANTS & FELLOWSHIPS (PENDING)

National Science Foundation HCC Small Research Grant (\$600,000)	2024-2027
NYU Dean’s Undergraduate Research Fund (\$1,000)	2024

SKILLS

Software and Game Development: C#, C++, C, Unity, Java, JavaScript, x86-64 Assembly, PyTorch3D, ImGui, Qt, VR/AR, WebXR
Graphics Development: CG, GLSL, HLSL, OpenGL, WebGL, Linear Algebra, Procedural Generation, Physics Simulation
Team Management: Git, Perforce, SVN, Redmine, Notion, Trello, Miro