

Clytie Qiu

clytiewq@gmail.com | (631) 428-9850

EDUCATION

Carnegie Mellon University, Pittsburgh, PA

May 2026

Bachelor of Science in Physics/Computational Physics Track (GPA: 3.12/4.0)

Relevant coursework

- Physics: Intermediate Electricity & Magnetism; Physical Mechanics; Physics III: Modern Essentials; Physical Analysis; Quantum Physics; Matter and Interactions I & II; Electronics I (lab course), Experimental Physics; Stars, Galaxies, and the Universe; First Year Seminar: Black Holes and Gravitational Waves
- Math: Probability, Mathematical Methods of Physics, Calculus in Three Dimensions, Concepts of Mathematics
- Computer Science: Computer Graphics, Introduction to Computational Physics, Functional Programming, Principles of Imperative Computation, Special Topics in Applied Python Programming
- Communications: Introduction to Translation

Independent study abroad, Peking University, Beijing, China

June 2024-July 2024

Visiting student (QPA: 91/100)

Coursework (completed in Mandarin): Media & International Relations, Sociological Perspectives of Dying & Death

SKILLS

Computer: Python (Jupyter Notebook, pandas, NumPy, Matplotlib), C++, C, C# in Unity, Java

Language: English (native), Mandarin (fluent), French (basic)

RESEARCH

McWilliams Center for Cosmology, Pittsburgh, PA

Undergraduate Researcher, advisor Dr. Mohit Bhardwaj

January 2024 – present

- Work extensively with IllustrisTNG-50 data in JupyterLab to derive cell properties along 3D sightlines.
- Develop a robust code base to calculate and visualize dispersion measures (DM) in the MW/M31 catalog.
- Propose a DM to baryon density ratio model to predict DM of Fast Radio Bursts using X-ray data.

Undergraduate Researcher, advisor Dr. Tiziana DiMatteo

June 2023 – August 2023

- Wrote a research proposal to the SURF program at CMU and received funding for the summer.
- Searched for runaway black hole systems in the ASTRID cosmological simulation data stored in the VERA computer cluster using data analysis and astronomy libraries in Python.
- Practiced presentation and communication with peers and mentors in group meetings.

PROJECTS

Scotty3D (a graphics API), ongoing scaffolded project in Computer Graphics (Fall 2024)

- Build basic components (rasterization, mesh editing, etc.) of the graphics pipeline as they are taught

Earth-Sun system, midsemester project for Computational Physics (Fall 2024)

- Found Lagrange points of the Earth-Sun system using computational root-finding methods
- Estimated the energy that it would take to move Earth, in reference to *The Wandering Earth* (2019)

Oligopoly, final project for Fundamentals of Programming (Fall 2020)

- Created a digital version of Monopoly using the CMU Graphics Python library

LEADERSHIP & ACTIVITIES

Gender Minorities and Women in Physics (GWIP), Carnegie Mellon University

February 2024 – present

Undergraduate Vice President (August 2024 – present)

- Plan and lead club activities (meetings, lab tours, workshops, movie nights, etc.) with the rest of the board.
- Foster a welcoming environment for all members of the physics community during general body meetings.
- Establish GWIP as a reputable organization within the community at CMU during its inaugural year.

Game Creation Society, Carnegie Mellon University

September 2022 – present

"It's Clogged" (September 2024-present)

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Programmer

- Brainstorm and implement game mechanics as a member of the programming team.

“Super Flytrap Adventures” (January 2023 – May 2023)

Team Co-Lead and Programmer

- Facilitated project planning and reported progress weekly to the GCS board to maintain project timeline.
- Discussed game ideas and level design with team members in semi-weekly meetings and via Discord.
- Brainstormed, implemented, and scripted game objects in Unity to contribute to designated GitHub repo.

“NanNan” (September 2022 - January 2023)

Programmer and Translator

- Improved pre-existing game scenes in Unity by creating and manipulating game objects.
- Collaborated through a combination of in-person and virtual communication and meetings.
- Translated scripts from Simplified Chinese to English with a mind towards preserving cultural context.

Fencing Club, Carnegie Mellon University

September 2022 – present

Treasurer and Interim VP (September 2023 – August 2023)

- Manage budget, track expenses, and complete purchases with the necessary paperwork as an “Authorized Signer” to keep the club in good standing with the university and satisfy the needs of 40+ active members.
- Organize interstate travel, lodging, and registration for club members attending collegiate tournaments.
- Coordinate activities with nearby clubs to keep CMU connected with the local fencing community.

VOLUNTEERING

Humane Animal Rescue of Pittsburgh, Cat Cuddler

January 2023 – present