Yu Qing (Perrie) **Quek**

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Education

University of Pennsylvania, School of Engineering and Applied Science   *Philadelphia, PA*

Master of Computer and Information Technology in Computer Science   *Aug 2023 – Present*

- **GPA**: 4.0/4.0
- **Relevant coursework:** Software Systems, Interactive Computer Graphics, Computer Systems Programming, Database and Information systems, Data Structures and Algorithms, Software Development, Discrete Mathematics

Nanyang Technological University, School of Art, Design and Media   *Singapore*

Bachelor of Fine Arts in Media Art, Honours (Highest Distinction)   *Aug 2017 – Jun 2021*

- **Winner of the Lee Kuan Yew Gold Medal, 2020/2021**: Graduated top of class in a cohort of 160 students
- **GPA**: 4.79/5.00
- **Dean's list:** Awarded in academic Years 2017/2018, 2018/2019, 2020/2021
- **Scholarship:** Recipient of the NTU-University Scholars Programme Scholarship

Skills

Languages & Frameworks   C++, Java, OpenGL, C, Python, C#, PostgreSQL, SQL, HTML/CSS, JavaScript, React.js, Node.js, Express, Vite

Software / Tools   Docker, Git, Pandas, Adobe Creative Suite, QT Creator, Autodesk Maya, Dragonframe

Work Experience

Teaching Assistant   *Philadelphia, PA*

University of Pennsylvania   *Aug 2024 – Present*

- Teaching Assistant for CIT 5950 Computer Systems Programming and CIS 2400 Introduction to Computer Systems
- Offered academic support, hosted weekly office hours, and provided code review in C and C++
- Developed tests for homework autograder and maintained assignment infrastructure

Graduate Research Assistant   *Philadelphia, PA*

Autonomous Manufacturing Lab @ UPenn   *Jun 2024 – Aug 2024*

- Converted a Java-based codebase to C to facilitate integration with Rhino3D (3D modeling software for architects)
- Developed custom scripting components to enable interaction between simulation software and architectural models, streamlining workflow
- Optimized code by identifying redundancies and reworking inefficient data structures

Selected Projects

Mini Minecraft [link]

- Developed a mini version of Minecraft using C++ and OpenGL in a team of 3   *Nov 2024 - Dec 2024*
- Responsible for procedural terrain generation, day/night cycle, texturing, procedural assets, post-process shaders and more

Chartify | Music Trend Analytics Tool [link]

- Developed a web application that delivers music trend analytics through interactive data visualizations   *Sep 2024 - Dec 2024*
- Designed and implemented PostgreSQL database, integrating datasets from Spotify, Kaggle, and lyrics retrieved via LRCLIB API
- Built and connected front-end and back-end servers, and wrote and optimized SQL queries for efficient data retrieval

'Study With Me' Web Application [link]

- **Awarded:** first place at the MCIT 2024 Hackathon   *Jan 2024*
- Led a team of four to develop a web application using React and Node.js, aimed at enhancing study sessions' productivity
- Implemented user-centered key features including interactive UI, customizable avatars, adjustable study session lengths

3D Mesh Editor

- Developed a half-edge mesh editor supporting Catmull-Clark subdivision, mesh construction, and manipulation   *Oct 2024*
- Implemented features for vertex, edge, and face manipulation, raycast selection, and OBJ file loading for standard 3D editing workflows