

Zachariah Lee

1 Milner Flats, Kingswood Street, Brighton | zachariah.lee2003@gmail.com | +44 07393 226258

LinkedIn: [linkedin.com/in/zachariah-lee-709a83229](https://www.linkedin.com/in/zachariah-lee-709a83229) | Portfolio: blo0o0o0.github.io

SUMMARY

Fourth Year student studying Computer Science with High Performance Graphics and Games Engineering, predicted to graduate with First Class Honours BSc, MEng in 2025. Experienced in collaboration and project management through academic group projects and being part a university society committee member.

CONFERENCE PRESENTATIONS

2025 - British Conference of Undergraduate Research

“Alleviating Anaglyph Stereo Ghosting with Real Time Focus Plane and Individual Adjustments”

- Undergraduate project where I implemented an anaglyph 3D rendering engine in OpenGL with adjustable parameters for IPD and eye dominance.
- Additionally responded to user visual input to adjust focus plane in real time to minimize visual artifacts caused by parallax-based ghosting.
- Wrote a 30-page report documenting the process and conducted user testing to validate and evaluate methods.

PROJECTS

Raytracing Renderer – University Coursework

- Implemented a Raytracing render in C++ with a rasterized side by side comparison.
- Added optical features such as impulse reflections, transparent objects with refractions, Fresnel effect and absorption.
- Can also run as a path tracer with Monte-Carlo sampling with next event estimation, soft shadows with area lights and caustic formations.

Vulkan Renderer – University Coursework

- Implemented a real time Vulkan Renderer in C++ with a PBR shading model with Normal Mapping and toggleable post processing effects such as mosaic.
- Included various debug visualizations such as overdraw/overshading, mipmap levels, partial derivatives and vertex density.
- Additionally implemented cross platform support with MacOS with the MoltenVK library.

Mesh Processing Utilities Library – University Coursework

- Implemented several mesh processing utilities in C++ with support for different mesh formats such as indexed face and directed edge formats, and utilities to convert between them.
- Built tests to ensure meshes were manifold, highlighting non-manifold vertices and edges and calculating genus of manifold meshes. With automatic mesh repair utility to close small holes in meshes.
- Built an automatic mesh simplification tool which used a greedy algorithm with Gaussian curvature to remove vertices.

EDUCATION

University of Leeds 2021 - 2025

MEng, BSc Computer Science with High Performance Graphics and Games Engineering

Classification: Achieved a 1st in undergraduate part of course, currently studying in final year of integrated masters

Relevant Modules: Foundation of Computer Graphics, Advanced Rendering, Modelling and Animation, Research Seminar

Brighton Hove and Sussex Sixth Form Center 2019 – 2021

A-levels in Mathematics (A*), Computer Science (A) and Chemistry (A), AS-levels in Further Mathematics (A) and Extended Project (A)

Hove Park Secondary School 2016-2019

11 GCSEs including English (7) and Mathematics (9)

WORK EXPERIENCE

Leeds University Union Anime and Manga Society Committee Member 2023-2025

- Organised and lead one of the largest university general interest societies in the UK with over 200 student members

China Brasserie Haywards Heath, West Sussex Supervisor 2018 - 2021

SKILLS AND INTERESTS

- Member of the Game Makers of Yorkshire (GaMaYo), a networking group for people in the games industry across Yorkshire