

I am an undergraduate experienced mostly with gameplay programming, which has made great use of my problem-solving abilities. A lot of my free time is spent developing gameplay systems and learning the theory behind computer games and graphics.

EDUCATION

University College London (UCL)

Bloomsbury, London

BSc Computer Science

Sep 2017 – Jun 2020

- *Year one: Theory & Algorithms, Robotics AI, Discrete Mathematics, Engineering Challenges, Principles of Programming, Design and Professional Skills, Applied Software Development, French Level 1*
- *Achieved a 1st for year one overall*

Banbridge Academy

Banbridge, Northern Ireland

5 A-Levels (Maths, Further Maths, Physics, Software Systems, Biology)

Sep 2015 – Jun 2017

- *Trophy for top A-Level results*
- *Only student to take five subjects*
- *Self-taught Further Mathematics*

TECHNICAL SKILLS

Languages: C#, C/C++, Java, Python, PHP, SQL, JavaScript, HTML, CSS**Maths:** Linear algebra: matrices, vectors, quaternions; trigonometry; calculus; equations of motion**Tools:** Unity, Visual Studio, Git, Maya

WORK EXPERIENCE

UCL Institute of Child Health

Bloomsbury, London– *Programming Intern: Project Fizzyo*

Jun 2018 – Aug 2018

- Modified and debugged existing codebases for games controlled by patient breathing apparatus
- Met with the patients in the hospital and received feedback from them during development
- Worked alongside MSc students and had SCRUM stand-up meetings with Microsoft engineers

PERSONAL PROJECTS

URaider (<https://youtu.be/DcrMnW7qbGc>)

Dec 2017 – Present

- 3D Unity game framework that includes all Tomb Raider game mechanics, such as climbing, combat, swimming, crawling, pick-ups, inventory, doors/switches and enemy AI
- Camera and player controllers built from scratch to be responsive and accurate
- Programmed a state machine using object-oriented programming techniques
- Designed to be extendable in the future, for example, new weapons can be easily added
- Implemented a ledge targeting system that adjusts jump take off angle and velocity based on ledge location for accurate grabbing
- Created 3D ring inventory using circle mathematics and a separate camera

ACADEMIC PROJECTS

Immersive Sports VR

Oct 2018 – Apr 2019

- Team leader on a Unity virtual reality project to help professional cyclists train
- Game takes input from a VirZOOM bike and uses a Samsung Gear VR headset
- Gathered requirements using questionnaire, interview and user feedback techniques

NHS Video Labelling

Jan 2018 – Apr 2018

- Led a team on an Android app for the NHS that captures videos for annotation with emotions
- Liaised directly with a client from the NHS to determine requirements and get feedback
- Achieved the top grade (1st) for this module

Arduino Platformer

Nov 2017

- Python platforming game that takes input from buttons and an LDR on an Arduino
- Added an online leader board using Microsoft Azure

ACTIVITIES

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| • Pixel Jam Game Hackathon (2017) | • School Prefect (2016 – 2017) | • NCB Young Researcher (2013 – 2015) |
| • UCL Technology Society | • GCSE Python Tutor (2016) | |