# BERTIE TAYLOR

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*A versatile and passionate Video Games Programmer proficient in C++ and eager to find a junior role on completion of Games Engineering Masters this Summer. Adept at handling teamwork driven and fast-paced environments with excellent time management skills enabling reaching deadlines with exemplary levels of work. Intrigued specifically in the areas of physics and AI – currently writing a dissertation on implementation of Fish simulation making use of Boids along with developing an FPS within a diverse small team.*

## Education

*MComp Computer Science (Game Engineering) - Newcastle University (2017 – Current)*

*Current year average: 81.5%*

*Relevant Coursework:*

*Team Project*: Leading a Team of 8 on a 2-month project to produce a cross-platform multiplayer team-based shooter with a paint splattering mechanic. Organised and structured the team and tasks through daily scrums and Kanban boards and have now taken on the task of implementing a networking solution with server-side physics integration built in a custom engine in C++.

*Physics and AI*: Implemented a physics engine in C++ including Collision Detection and Resolution (via normal and frictional impulses), Rigid Body Physics and Constraints. Made use of this to develop a physics-based game, introducing state-based AIs relying on implementation of the A* pathfinding algorithm. Also coded collision body visualisations to enable easier debugging.

*Graphics (87%)*: Developed a graphics engine on top of the minimal NCLGL (OpenGL) framework provided. Implemented skeletal animations, scene graphs, forward rendered lighting and post-processing effects making use of frame buffers. Focus was given to a water shader which made use of advanced techniques such as screen space reflections and dudv mapping.

*Trove (90%)*: Designed and Implemented a procedural 2D arcade platformer within the Unity game engine. Developed a player controller and a simple enemy AI and spawning system. Made use of singleton design patterns for a consistent game manager between scenes and wrote a simple procedural level generator and item spawner to provide variety and longevity to the game.

*Dissertation (82%)*: Produced a framework for well-designed video game tutorials by making use of research on educational theories for multimedia as well as primary user research done using a variety of 12 tutorials produced in Unity. Derived a framework via the use of qualitative analysis techniques.

## Skills

Engine Programming • C++ (3 years) • OpenGL • GLSL • Version Control (GitHub) • Gameplay Programming • Unity • C# (3 years) • Android Development • Java • Machine Learning Fundamentals • Team Projects • User-Centric Design • Agile Development • HCI Methodologies • Trello • Visual Studio

## Miscellaneous

*Volunteering:* Spent 2 months working as a camp counsellor for special needs children at Camp Sno-Mo, New Hampshire, USA. Trained to get first aid qualifications and worked in an international team of 20 to provide care and support for differently-abled children of all ages.

*Part-time Jobs:* Over the past six years, I have worked in a multitude of roles within the hospitality environment, from Nightclubs to Children's Petting Farms. Most recently, working as a commis chef within a close-knit kitchen team developing skills within my interest of cooking as well as handling prep in a high-stress high turnover environment.

*Hobbies & Interests:* Like everyone aiming to enter the games industry I have a love of video games, with favourites including Celeste, Skyrim, and the Halo series. I also spend time playing board games and Tennis to destress.