

# Jack Bulson

Programmer

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## Personal Profile

I am a programmer with 3 years experience in the games industry, passionate about creating great experiences and building reliable code solutions. I am a reliable, friendly, and hard-working individual, with a proven track record of great communication and collaboration.

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## Employment

### Gameplay Programmer (C++/Unreal Engine)

Sumo Newcastle  
2024~

- Worked on **Critter Cafe**, a critter collecting, cafe management cozy game
- Implemented each of the character's tools (**player abilities**), which involved **character animation & VFX** logic, the **Gameplay Ability System**, and closely cooperating with designers and artists
- Implemented **puzzle ingredients** (movable blocks, switches, boomerang redirectors & more)
- Worked with level design to build **in-editor functionality** for these ingredients
- Worked on the open for trade activity & the minigames, this involved **customer logic** (seating, frustration), **UI widgets** for each minigame and **multiple difficulty levels** for each
- Improved our project's usage of **collision handling** to ensure correct and easy to change behaviour
- Improved the **game feel** and **UX** of the customisation mode

### Graduate Programmer (C++/Unreal Engine)

Sumo Newcastle  
2022 ~ 2023

- Worked on **DeathSprint 66**, a high-speed on-foot racing game
  - Sole programmer in a small feature team in pre-production, prototyping gameplay ideas
  - Worked on some **UI**, such as in-game & end of match leaderboards
  - Gained experience with **networking & replication**
  - Worked on a **shelved project** for the first 7 months of my employment
  - Responsible for prototyping less significant gameplay logic as I gained experience using **Unreal Engine** and **C++** professionally
  - Implemented **outlines** for highlighting interactable objects
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## Projects

### Game Engine (Rust/Vulkan)

2022 ~ 2023

- Implemented **PBR**, basic **shadows**, **bloom**, **reloadable shaders**, **particles** & more
- Used **bindless rendering** to allow for efficient draw call batching and resource management
- Integrated **egui** so I was able to quickly and easily create simple UI
- Created my own 'RenderList', which was a simplified version of a **RenderGraph**, allowing me to abstract **RenderPass** building away in a simpler and easier to use interface.

### Hydraulic Erosion Simulation (C++/Vulkan)

2022

- Implemented a simple form of water erosion as part of my final year university dissertation
  - Utilised **compute shaders** to create a GPU version of this simulation
  - Compared the visual and **performance** results between CPU and GPU
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## Technical Skills & Qualifications

- 3 years industry experience using Unreal Engine/C++/Blueprint
- MComp Computer Science (Games Engineering) Newcastle University, UK (1st)