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Soon-to-be University College London Computer Science graduate on track for a 1st-class honours with games-industry experience, strong programming skills and in-depth knowledge of and love for game development

Technical Skills

- **Languages:** C++, C#, Python, JavaScript, C, Java, Go, GLSL, SQL
- **Tools:** git, Visual Studio, Visual Studio Code, GitHub, GitLab, Unity, Bash, Node.js, Docker
- **Knowledge:** networking, algorithms, component systems, graphics, modelling, texturing, unit testing
- **Libraries:** C++ Standard Library, React, Redux, Express

Games Industry Experience

Junior Software Engineer   **July – September 2020**
Wonderstruck Games   Guildford, UK

Keywords: C++, Python, FBX, JSON, Maya, Visual Studio, cmake, graphics, modelling, animation

- Developed a C++ tool to convert FBX files to a JSON asset format based on an existing tool that converted from the DAE format
  - Analysed the specifications of the asset format and existing tool to translate these to the new tool
  - Designed the new tool to be as fast as the old one and produce assets 10% smaller in some cases
  - Gained an in-depth understanding of areas of modelling including meshes, skeletons and animations
  - Updated the Python asset compile process for the Boundless game to use the new tool
- Added a feature to the Boundless game whereby some creatures would float and play special animations in water and lava instead of sinking to the bottom and drowning as they previously had been
  - Gained an understanding of one way animations, entity actions and entity AI states can be linked in a game as well as how a component system works

Projects

KTaNEAU   **October – December 2020**

Keywords: VR, Unity, C#, git lfs, collaborative development, social, multiplayer, networking

- Developed a VR game inspired by Keep Talking and Nobody Explodes and Among Us as part of a team
- Involved players collaborating to complete a series of tasks in VR, with some requiring interaction between multiple players and some requiring cooperation between players in different locations
- Was personally responsible for developing the networking side of the game which required creating a server-client-like system and managing messages sent between clients
- Also developed the game logic and how it interacted with the various tasks as well as the game UI

Dino Jump   **October – November 2017**

Keywords: C, Processing, Arduino, OpenSCAD, electronics

- Developed a clone of the Chrome dinosaur jumping game that appears when you have no internet
- Designed the game to be controlled by a simple controller connected to an Arduino which would act as a motion controller and react to 'jump' movements
- The controller also had a button for menu navigation and a buzzer for simple sound effects

Conway's Game of Life   **2016**

Keywords: Java, JavaFX, simulation, UI, optimisation

- Developed a version of Conway's Game of Life in Java with JavaFX
- Designed it to run smoothly even for quite complex simulations
- Also designed it with a variety of useful features such as the ability to pause the game, change the game speed, resize the game grid and insert various example machines

Other Experience

Software Engineering Intern   June – August 2019
Thirdfort   London, UK

Keywords: JavaScript, Go, Node.js, React, Redux, ArangoDB, Express, Mocha, Chai, Docker, API, full-stack, databases, Agile, code reviews, unit testing, CI/CD, startup

- Worked as a full-stack developer on the company's core product, a web app and accompanying API which enables conveyancers to perform ID checks on their clients to facilitate on-boarding
- Responsible for developing major product features, fixing bugs, performing code reviews and participating in weekly planning and retrospective sessions
- Researched, planned and started to implement a major infrastructure change where backend features were moved to a separate microservice written in Go and communication was performed via a Kafka queue

Education

University College London   2017 – 2021 (expected)
MEng Mathematical Computation (Computer Science with Maths)   London, UK

- Grade for years 1-3: 80%
- Modules completed include: Computer Graphics (98%), Computer Systems (83%), Applied Software Development (75%), Computer Architecture and Concurrency (82%), Machine Learning (75%)
- 4th-year modules include: Virtual Environments, Software Architecture, Software Abstractions, Systems Integration, Validation and Verification

Interests

- **Games:**
    - Favourite genres: Indie, Strategy, Platformer, Puzzle, Sandbox, Rhythm, Racing
    - Favourite games: Breath of the Wild, Super Mario Odyssey, Pokémon, Minecraft, Terraria, Factorio, SteamWorld series, Celeste, Fez, FTL, Stardew Valley, Undertale, CrossCode, Creeper World series
    - I particularly enjoy playing indie games due to their inventiveness and originality. You can often also sense the passion that went into making them.
- **Programming:** Fell in love with it around age 13 when first introduced to it at school. Quickly realised the sheer power and flexibility it had to do pretty much anything you could imagine. Enjoy solving programming problems succinctly and efficiently. Often wonder while playing games how I might implement a certain feature if I was programming it myself.
- **Sports:** Regularly play friendly games of football. Cycle for travel and pleasure.
- **Music:** Enjoy listening to a wide variety of music. Play the piano in my spare time. Like to learn the piano versions of the soundtracks to my favourite games.