ARJUN BHATNAGAR

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SUMMARY

A dedicated game developer with a strong C++, C#, and Python foundation. Holding a BSc (Hons) degree in Computer Games Application and Development (CGAD) from the University of Abertay, Dundee. Experienced in system-level operations, user-interface design, gameplay mechanics, and machine-learning models. Eager to contribute to innovative games projects in the games industry.

Shiva Consulting Private LTD – Slough, Berkshire **September 2023 – Present**

Helpdesk Technician

- Utilized C++ for troubleshooting and system-level operations, resolving software issues effectively.
- Utilizing efficient systems, I prioritised guest requests and promptly addressed any issues, ensuring their satisfaction and adherence to service standards.
- Assisted in deploying and configuring hardware, software, and peripheral devices, ensuring compatibility and functionality.

Research Assistant at Abertay University – Dundee, Scotland **June 2023 - August 2023**

UI Programmer / Level Programmer

- Developed a virtual production application in Unreal Engine using C++, producing tools for Virtual Production studies used in cinematography and computer-generated imagery.
- Worked on the project as part of a team with four main collaborators from Scotland, Norway, Croatia, and Denmark.
- Created an easy-to-understand user interface for complex mechanics and streamlined the application's working.

Immersive Realities – New Delhi, India **August 2022 – September 2022**

Junior Unity Developer

- Developed a prototype for a character customizer in the Unity game engine using C#, designed for clothing companies to allow users to try on different outfits on their characters.
- Simulated water physics to make objects in the water float on the surface based on the amplitude of waves similar to an ocean in real life.

PROJECTS

Graphics Programming Application (DX12) – Dundee, Scotland (Link) **December 2021**

- Created a graphics scene using C++, DirectX 12, and HLSL to demonstrate the integration of complex rendering techniques.
- Designed and implemented shaders, focusing on real-time rendering optimisations and scene performance.
- Emphasized efficient memory management and GPU usage for optimised graphical output.

Parallel Programming Application – Dundee, Scotland (Link) **May 2021**

- Developed an interactive Mandelbrot application using C++, visualising the efficiency of multithreading in performing intensive computational tasks.
- Showcased the speedup achieved by distributing the workload across multiple threads for improved performance.
- Focused on thread safety and performance optimisation, demonstrating the benefits of parallel computing.

Honours Project – Abertay University, Dundee (Link) **Sept 2022 – May 2023**

- Developed a Virtual Reality CPR simulator using the Unity game engine and the HTC Vive Pro headset, with the primary aim of enhancing medical training through the use of extended reality (XR) technologies.
- Used C# to implement immersive gameplay mechanics and interactive feedback systems that simulate real-world CPR procedures.
- Authored a comprehensive dissertation on the integration of XR technologies in medical simulations, which was well-received by medical professionals, industry experts, and research participants, reinforcing its practical application and contribution to the field.

Food Safety Simulator – Abertay University Dundee (Link) **Jan 2022 – May 2022**

- Led a team of 5 to develop a Food Safety Simulator for a client as part of a professional project brief assigned by the University, intended for distribution across food manufacturing facilities throughout Scotland.
- Designed and programmed two mini-games within the main game for more in-depth mechanisms. Utilised C# and the Unity Game Engine to design and implement two mini-games within the main application, offering detailed mechanics to reinforce food safety protocols.
- Programmed the core gameplay mechanics and user interface, ensuring an intuitive and user-friendly experience that met industry standards for educational tools.

Convolutional Neural Network – Abertay University Dundee (Link) **May 2022**

- Developed and deployed a machine learning model using Python and various libraries (including TensorFlow, Keras, and Pandas) to detect pneumonia from a dataset of lung X-ray images.
- Designed and trained the model to identify abnormalities in chest X-rays, intending to aid early diagnosis and improve treatment outcomes.
- Focused on pre-processing image data, model optimisation, and evaluating the model's performance through validation metrics, ensuring reliable and accurate detection of pneumonia in real-world applications.

TECHNOLOGIES AND LANGUAGES

- **Languages:** C#, C++, Python, JavaScript and HTML
- **Technologies:** GitHub, JIRA, Visual Studio, Unity and Unreal Game Engine
- **Other:** Data Structures and Algorithms, MS Office, Fluent in English and Hindi

EDUCATION **September 2019 – May 2023**

University of Abertay, Dundee

BSc (Hons) in Computer Game Applications and Development

Degree Classification: Bachelor of Science with Second Class, Upper Division Honours (2.1)

References available on request