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Computer Graphics Engineer

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Education

2018 — **Jaypee Institute of Information Technology, Noida** — 7.2/10 CGPA

Bachelor of Technology, Computer Science Engineering

- A+ in Data Structures, A in Computer Architecture, and Minor-I & II

2014 — **DAV Centenary Public School, Haldwani (12th-Senior Secondary Examination)** — 93.8%

Central Board of Secondary Education

- 96 in Maths, 95 in English and 94 in Physics and 93 in Computer Science

2012 — **DAV Centenary Public School, Haldwani (10th- Secondary Examination)** — 10/10 CGPA

Central Board of Secondary Education

Work Experience & Internships

May 2019 - Present

Computer Graphics Engineer (Vizara Technologies Pvt. Ltd, Gurgaon)

- Collaborated on all stages of the product development cycle, from requirement gathering to releases of apps like **Digital Gandhi Akar Prakar**, which are available on Google Play Store.
- **Fixed memory leak** due to unreferenced co-routines in Museum AR app, using **Unity Profiler**.
- Coordinated with 3-D artists to evaluate and optimize the computational and **graphical performance** of GPU Intensive applications.
- Performed software testing and troubleshot runtime issues before the ChariotVR and VizARt 3D app launch, based on the virtualization of **Indian Heritage**.
- Worked on **Unity 3D** with **C#** scripting, Visual Studio, .NET framework, **Room-scale tracking** with SteamVR, **Image/Model Recognition** AR apps using Vuforia, and Google ARCore.
- Represented the company in **India International Science Festival 2018, Unity Developer Conference 2019, and National Workshop on Intelligent Multimodal Interfaces 2019.**

Aug 2018 - Apr 2019

Junior Research Fellow (Indian Institute of Technology, Delhi)

- Worked as a Unity 3D Developer on the project, **'Digital Mini Spectacle'** where the goal was to create **digital installations** using **3-D laser scan data**, **AR**, **Holographic Projections**, and 3D Fabrication to provide interactive and immersive experiences showcasing the glory of **UNESCO World Heritage Sites** in Hampi, Karnataka, India.
- Primary duty was to research and explore ways to visualize 3-D modeled data in Unity with special attention to optimization and immersiveness using **VR, AR, and MR solutions**.
- Co-developed **OpenCV** based laser navigation system for a virtual walkthrough.

June 2017 - July 2017

Unity Game Developer Intern (Absentia Virtual Reality Pvt. Ltd, Bangalore)

- Worked as a **Unity Game Developer** on the project named **'Norah AI,'** an automated game engine that uses machine learning techniques to **automate the game development** process.
- Developed various plugins and tools based on C#, which uses I/O functionalities of Unity.
- Worked on **MoCap** animations and skeletal rigging.

Academic Projects

Aug 2017- May 2018

Comparing and Implementing Neuroevolutionary algorithms in Unity3D game engine

- The project's primary motive is to implement each Neuroevolutionary algorithm and compare them in terms of **efficiency of results, speed, and accuracy**.
- A scenario is taken in which arrows must reach the destination circle by calculating the distance between them and adapt their neural network accordingly. **Fitness** is calculated in terms of the **minimum distance** achieved between the arrows and circle.

Jan 2017 - May 2017

Seize Task Force - RTS Shooter Game (B. Tech Project, 6th Semester)

- It is an RTS First Person Shooter android game in which the user is a part of STF, a first response team against terrorist attacks in the city. This game boasts high-quality graphics with interactive sounds and user-friendly controls.
- It's implemented in Unity 3D software using **C#** scripting and Visual Studio debugging.
- The primary duty was to implement **A* algorithm for pathfinding**, creating LAN multiplayer using the **UNET plugin**, and deploying the VR version using **GoogleVR SDK** and Bluetooth controllers.

Aug 2016 - Dec 2016

Big Bang Simulation (B. Tech Project, 7th Semester)

- The project is a simulation of "The Big Bang" and its aftereffects, involving a rapid expansion of the universe and segregation of heavenly bodies. The last stage displays a solar system-like formation with planets orbiting around a star.
- It is implemented in **C++** using the **OpenGL and GLUT library**.
- **Matrix multiplication** is used to scale, rotate, and revolve objects for the required visual effect with different equations for each planet depending upon its spin frequency.

Aug 2015 - Aug 2016

Delegate (Jaypee Model United Nations)

United Nations Commission on the Status of Women (UNCSW)

- Representation from Spain, discussing women's social and educational rights, identifying challenges, and formulating concrete policies to promote **gender equality** and advancement of women worldwide.

Skills

Languages

- **C#**
- **C/C++**
- **OpenGL**
- JavaScript
- Python

Technical Skills

- Unity 3D/ Unreal Application Development
- Game Mechanics/Logic
- **Performance Optimization**
- Windows/ Android/ iOS Platforms
- **Data Structures/ 3D Mathematics**
- SteamVR, Vuforia, ARCore App Development, Visual Studio

Certifications

May 2018

- Unreal Engine C++ Development – Epic Games (Udemy)

April 2020

- Specialization in **Game Design and Development** – Michigan State University (Coursera)

Extra-curricular Activities

Aug 2016- May 2018

Head Coordinator - Graphics and Animation Hub, JIIT Noida

- Organized a 2-day **Game Development Hackathon** in Cybersrishti 2017 (College Tech Fest).
- Organized a weeklong **Unity Game Development Workshop** in college, explaining the technicalities of Unity 3D software and C# scripting.
- Organized a **FIFA and Counter-Strike Competition** in College Fest 2017.
- Organized a **Workshop on Photoshop** in college in 2018.

Aug 2015- Aug 2016

Volunteering

- Member of Organizing Committee - **International Conference for Contemporary Computing 2015**.
- Member of Organizing Committee - **International Conference for Peaceful and Prosperous South Asia 2016**.