Abhigyan Gandhi

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PROFESSIONAL SUMMARY

Motivated Computer Science graduate specialising in high-performance graphics and games engineering. Well-versed in C++, C#, Vulkan, OpenGL, GitHub and Visual Studio. Passionate about building creative and efficient real-time applications, experienced through internships and award-winning academic projects. Seeking opportunities to contribute my technical expertise and a strong work ethic to the graphics and/or game development industry. **Eligible to work in the UK**.

EDUCATION

MSc. High-Performance Graphics and Games Engineering, Merit | University of Leeds | Sept 2024 - Sept 2025

- **Modules**: Foundation of Computer Graphics, Advanced Rendering, Modelling and Animation.
- **Dissertation**: Evaluating the performance and visual fidelity of INTEL OIDN against NVIDIA NRD.

B.E. (Hons) Computer Science, Data Science, CGPA: 8.72 | BITS PILANI DUBAI CAMPUS | Sept 2018 - Sept 2022

- **Modules**: Machine Learning, Data Mining, Foundations of Data Science, Neural Networks.
- **Final Year Design Project**: Mobile Robot Path Planning using Deep Learning Techniques.

PROJECTS

- **Game Engine Development (C++, Vulkan, 2025):** Developed multi-pass Vulkan renderer with PBR pipeline; implemented GPU culling, ECS and vehicular physics simulation; achieved **100+ FPS** on RTX hardware; won **Game Republic Red Kite Games Game Technology Award** at the Student Showcase 2025 (Group project).
- **LETTER SHIFT (Unity, C#, Ongoing):** Developing a daily puzzle game for mobile and web; preparing for release on letter-shift.com (demo) and Android (APK available on portfolio).
- **Ray Tracing and Rasterization (C++, OpenGL, Vulkan, 2024):** Implemented CPU-based ray tracer and GPU rasterizer to compare performance and visual fidelity. Reduced GPU render pass time by **35%** through descriptor sets.
- **Bezier Curves and Physics Simulation (C++, OpenGL, 2024):** Created a Bezier curve renderer and physics-based animation with collision detection for a character and bouncing dodecahedra.
- **Generative Art with GANs (Python, TensorFlow, 2020):** Trained GAN to generate Monet-style digital paintings, improving FID by **18%**, producing 512x512 outputs at **30ms** inference time.

WORK EXPERIENCE

Ticket Sales Advisor (Part-time) | Leeds United | Oct 2025 - Present

- Resolved time sensitive problems efficiently in a fast-paced, high pressure environment, ensuring a smooth and positive experience for fans attending fixtures.
- Delivered calm, professional customer service, assisting supporters with ticketing issues, collections and enquiries.

Game Development Intern | Sentient Labs | Jun 2020 - Aug 2020

- Developed a game in **Unity** for the company's website; lifted user engagement by **25%** and boosted average session duration by **18%**.
- Implemented responsive gameplay mechanics and modular UI systems, reducing UI load time by **40%**.
- Integrated **50+ art and audio assets**, ensuring visual consistency at a sustained **60 PFS**.
- Collaborated in agile sprints, completing **100%** of assigned tasks using Git-based version control.

AI/ML Intern | Stella Stays | Aug 2021 - Jan 2022

- Implemented predictive pricing model using **LSTM** and **regression,** improving base price accuracy to **10% MAPE** versus market price.
- Built a NLTK-based sentiment analysis pipeline for hotel reviews, achieving **80% accuracy**.
- Developed a room allocation algorithm based on **minimum slack** and **clustering**; led to a **+10% optimized** allocation method.

SKILLS

- **Programming**: C++, C#, GLSL, HLSL, CUDA, Python, TypeScript, SQL.
- **Graphics and Game Dev**: Vulkan, OpenGL, Unity, Unreal Engine, Physics Simulation, Game Engine Architecture, HPC/GPU Programming, ECS architecture, SIMD, memory management, networking, PBR, BRDF, shadows, GPU descriptors, synchronization primitives.
- **Tools**: Git, Linux, GitLab CI/CD, Docker, Node.js, MATLAB, Azure DevOps, RenderDoc, Tracy, Nsight, MySQL.
- **AI/ML**: TensorFlow, Scikit-Learn, Pandas, CNNs, GANs, Computer Vision.
- **Languages**: English(Native), Hindi(Native).
- **Technical highlights:** Shader programming, GPU optimization and profiling, physics simulation, real-time rendering, ECS architecture and gameplay pipelines.