

SARTHAK AGARWAL

Game Programmer | Unity Developer

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🌐 Portfolio in [linkedin.com/in/void-sarthak-agarwal](https://www.linkedin.com/in/void-sarthak-agarwal) 🎮 [void-sarthak](https://void-sarthak.com)

SKILLS

Languages	C++, C#, Python, HLSL/GLSL, JavaScript
Frameworks	Unity, WebGL, OpenXR, Oculus SDK, Unreal Engine, OpenGL
Tools	Visual Studio, Git, Blender, Photon Unity Networking (PUN), Trello
Soft Skills	Problem-solving, Creativity, Teamwork, Communication, Adaptability

PROJECTS

ZenScape - VR Meditation March 2024 - April 2024
Role: Game Developer | Team Lead Mentor: Dr. Amar Behra | Course Project

- Led the team of **8 members** in development of a cutting-edge **Virtual Reality-based Meditation Learning Environment** (MLE), leveraging immersive technology to reimagine mindfulness training
- Enhanced the traditional meditation, **integrating motion tracking and spatial audio** for full immersion
- Engineered interactive 3D environments in **Unity 3D**, applied **scripting in C#** for realistic meditation scenes
- Improved meditation efficacy and satisfaction, evidenced by **85% positive reviews** in controlled experiment
- Designed **analytical tools and feedback mechanisms** for evaluation and refinement of user interactions

Eco Hex | [LINK TO PROJECT](#) Apr 2023 - May 2023
Role: AI Programmer Self Project

- Developed strategy game using **Unity for Windows**, featuring **AI opponent** for depth and challenge
- Implemented **Minimax algorithm in C#** for AI opponent's decision-making, ensuring strategic gameplay
- Utilized board **evaluation heuristics** to assign scores to game states, enabling the AI to make optimal moves
- **Achieved 1st position** in game development problem at Takneek'22, showcasing technical proficiency

WebRay Graphics Renderer | [LINK TO PROJECT](#) Oct 2023 - Nov 2023
Role: Graphics Programmer Mentor: Prof. Soumya Dutta | Course Project

- Created a sophisticated **3D ray tracing renderer** using **JavaScript and WebGL**, focusing on advanced graphics and rendering techniques to simulate realistic visual effects in real-time environments
- Engineered components like multi-pass frames, **shaders, and ray tracing** algorithms for enhanced graphics
- Implemented **lighting models for real-time shadows and reflections**, achieving photo-realistic rendering

Ignition Evade | [LINK TO PROJECT](#) Dec 2023 - Jan 2024
Role: Lead Unity Developer Mentor: Inter-IIT Tech Meet 12.0

- Built a **narrative-driven game using Unity**, integrating Generative AI for story elements and dialogues, enhancing player **immersion by 30%** of overall experience
- Designed **gameplay mechanics**, including player abilities like jumping and dashing, for an engaging experience
- Revamped **AI models to optimize workflows**, improving visuals and reducing **processing times by 60%**
- Awarded **Bronze Medal** at Annual Inter IIT Tech Meet 12.0 for technical excellence and innovative mechanics
- Received special invitation from **Indian Game Development Conference (IGDC)** for national-level presentation

EDUCATION

Bachelor of Technology in Biological Sciences and Bioengineering, 2021-2025
Indian Institute of Technology, Kanpur