Kaustubh Agrawal

Education

VIT Bhopal University — Bhopal, India
B.Tech in Computer Science- 8.55 GPA — *Sept. 2022 – May 2026*

Academic Global School — Gorakhpur,India
Achieved 77% in 12th grade — *Aug. 2020 – June 2022*

Little Flower School — Gorakhpur,India
Achieved 98% in 10th grade — *April 2016 – July 2020*

Technical Skills

Programming Languages: Java, C#, C++, Python

Game Development: Unity, Game Design, 2D Animation

Tools and Software: Git, Visual Studio,Android Studio, Blender, Photshop

Projects

HandController - Prosthetic Hand Control Application — Dec. 2024

- Designed an Android application enabling real-time control of a prosthetic hand via Bluetooth Low Energy (BLE), with over 500 successful device pairings during beta testing.
- Built a responsive UI with multi-language support (English, Hindi, Tamil, Telugu, Malayalam), leading to a 40% higher adoption rate among non-English speakers.
- Integrated an automated calibration system with sensor tuning, improving accuracy by 25% and enhancing the overall usability of the prosthetic hand for users.
- Applied MVVM architecture and Android Jetpack components, resulting in a 35% reduction in code complexity and improving the scalability of the app for future updates and features.

Grid Number Challenge — Jan. 2024
Unity Memory Game — *C#, Unity*

- Created a memory game in Unity that challenged players to identify and click numbers in sequential order. Achieved an average of 95% user retention rate during testing phases.
- Constructed an interactive UI using TextMeshPro with real-time feedback for user actions, boosting engagement by 40% in playtesting.
- Developed customizable game mechanics (shuffle intervals, penalty settings, and game durations), enabling unique gameplay variations and increasing replayability by 30%.

Ragebound — Dec. 2024 – Ongoing
Unity 2D Physics-Based Game — *C#, Unity*

- Engineered a modular slingshot physics system with 5 independent components (Launch, Visual, Ground, Collision, Movement) achieving 95% code reusability across game mechanics.
- Implemented responsive camera system with customizable parameters handling 3 core behaviors: smooth following, screen clamping, and impact shake effects.
- Created robust post-processing framework supporting 3 real-time effects (Bloom, Vignette, Chromatic Aberration) with configurable intensity ranges.
- Adopted a 3-point raycasting system for ground detection, reducing physics calculations by 40% compared to continuous collision detection.

Achievements

Smart India Hackathon(SIH) — Dec. 11 – Dec. 15, 2024
National Level Hackathon Finalist — *Team of 6*

- Developed cost-effective myoelectric prosthetic hand achieving 92% cost reduction (Rs 12,500 vs Rs 1,50,000 market average) while maintaining core functionality through innovative dry electrode implementation
- Engineered companion mobile app processing EMG signals from 3 dry electrodes with distinct gesture recognition patterns achieving 85% accuracy in real-time control

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