Archit Kumar

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EDUCATION

Yale University   New Haven, CT
Simultaneous B.S. + M.S. Computer Science, 4.0/4.0 GPA   *Aug. 2022 – May 2026*

- **Relevant Coursework:** Systems Programming, Game Engine Programming, Real-Time 3D Graphics Programming, Physics Simulation Programming, Machine Learning, Software Engineering

EXPERIENCE

Yale Efficient Computing Lab   Jun. 2024 - Sep. 2024
Research Intern under Prof. Lin Zhong   *New Haven, Connecticut*
- ∗ Integrated the ParaMax network performance algorithm in C++ for Agora, a novel software-based system for handling massive multiple-input multiple-output (MIMO) in 5G networks.

Minnapad   May 2024 - Jul. 2024
Generative AI Engineering Intern   *Tokyo, Japan (Remote)*
- ∗ Automated Stable Diffusion workflows for AI-generated character image creation, streamlining dataset generation for model training.
- ∗ Optimized prompts and fine-tuned parameters to ensure consistent and reproducible outputs.
- ∗ Worked with renowned clients including Keiji Inafune (artist for *Mega Man* series) and Seiichi Ishii (designer for *Tekken* series).

Wildchain (Nonprofit Game Studio)   Jun. 2021 – Sep. 2021
Software & Animation Intern   *Bangkok, Thailand (Remote)*
- ∗ Designed, programmed, and animated 20+ in-game flora and fauna using Adobe Photoshop and C#.
- ∗ Collaborated directly with the project manager to identify critical priorities for the game's beta release.

People for the Ethical Treatment of Animals (PETA)   Jun. 2020 – Sep. 2020
Web Game Developer   *New York, New York (Remote)*
- ∗ Initiated development of the Unity/C# web game "Monkey Fright" promoting awareness about monkey cruelty in health laboratories.
- ∗ Strategically collaborated with PETA's Vice President of Marketing to amplify the game's social media presence.

PROJECTS

Skater Gator | *Unity, C#, Adobe Photoshop, Autodesk Sketchbook, Xcode*   Dec. 2019 – Jan. 2023
- ∗ Conceived and directed an iOS mobile game which has achieved 3600+ downloads from 118 different countries.
- ∗ Oversaw end-to-end development encompassing programming, art, animation, music, release, and marketing.

Cortex Crusader Game Engine | *Dlang, SDL*   Nov. 2024 - Dec. 2024
- ∗ Led a team of three in engineering a custom game engine with both 2D and simulated 3D (Mode 7) capabilities.
- ∗ Implemented the engine's GUI, save/load functionality, game object editor, and demo game.

Terrainer | *Unity, C#, Mapbox SDK*   Jan. 2022 – Mar. 2022
- ∗ Supervised a team of four in building an experimental 3D Unity game incorporating real world satellite data.
- ∗ Modeled and animated realistic avatar characters using Avatar Maker for Unity.

2D Kinematic Collisions | *C++, OpenGL*   Feb. 2025
- ∗ Implemented realistic ragdoll physics for a custom 2D mesh, incorporating the latest Neo-Hookean techniques.
- ∗ Programmed collision detection and hand-derived relevant response equations with calculus and linear algebra.

TECHNICAL SKILLS

Languages: Python, JavaScript, C/C++, C#, Bash, Rust, Java, x86-64 Assembly, Dlang, R
Developer Tools: Android Studio, iOS Xcode, Visual Studio, VS Code, Linux, Git, GitHub, OpenGL, Unity