

# MANEESH MRINAL SAMPATH KUMAR

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GitHub: <https://github.com/Maneesh-Mrinal>

Portfolio: <https://maneesh-mrinal-portfolio.vercel.app/>

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Currently Located in CHICAGO, IL, USA

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Motivated and detail-oriented **Game Programming graduate student** passionate about interactive design, gameplay mechanics, and immersive player experiences. Skilled in game development using **Unity and Unreal Engine**, with strong programming expertise in **C++, C#, and Java**. Adept at problem-solving, UI/UX design, and cross-functional collaboration. Enthusiastic about leveraging creativity and technical knowledge to craft engaging digital experiences and pursue a career in **Game Development**.

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## EXPERIENCE

### INTERNSHIP ON GAME DESIGN AND PROGRAMMING

Geons Logix Pvt Ltd  
<https://geonslogix.com/>

05/2023 – 09/2023

Game Designer and Developer for CLOUD'S RESCUE  
Team Design Lead  
UI/UX Designer

### ORGANIZATION COMMITTEE MEMBER AT TECHNOVIT

Qubit, VIT Chennai

06/2022

Member of Organization committee of Computer Science Department at University Tech-Fest  
- Event Coordinator

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## EDUCATION

### MS IN GAME PROGRAMMING

DePaul University, Chicago, IL

09/2024 – Present

### BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE ENGINEERING

Vellore Institute of Technology, Chennai

09/2020 – 05/2024

CGPA 7.69

### SCHOOLING

SBOA School and Junior College

06/2006 – 03/2020

- All India Senior School Certificate Examination - 92%
  - All India Secondary School Examination - 90%
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## SKILLS

- Optimization & C++ Programming:
  - Experienced in writing efficiently, memory-safe, and performant C++ code for real-time systems.
  - Knowledge of major optimization techniques including **SIMD**, **Return Value Optimization**, **Object pooling**, and **proxy patterns**.
  - Skilled at profiling and refactoring code to improve frame rates in real-time applications.
- Real-Time Multithreading
  - Knowledge of C++ 11/14 threading using functors, mutexes, and synchronization by building a real-time audio engine
  - Techniques used: **Actor model** (using deterministic queues), creating custom handles, tunneling, dynamic callbacks, thread balancing, messaging between queues, design patterns.
- Real-Time Software Development
  - Created C++ Real-time libraries (dll/static libs) – **File**, **Tree**, **Math**, **managers** for Video Games, High Frequency Trading, Simulations in medical industries.
  - Created a Real-time game engine using **OpenGL** using design patterns and cache friendly structures
- Rendering & Graphics Programming:
  - Proficient in utilizing the **DirectX API** to configure the graphics pipeline and render complex 2D and 3D scenes to the screen.
  - Skilled in implementing dynamic lighting models, such as the **Phong reflection model**, by writing custom **HLSL vertex and pixel shaders** that use surface normal to calculate realistic light interactions.
  - Experienced in developing advanced rendering techniques to create reflective surfaces like mirrors, utilizing methods such as **render-to-texture** and the **stencil buffer**.
- Game Development & Design:
  - Proficient in 2D and 3D game creation using Unity and Unreal Engine.
  - Strong grasp of gameplay mechanics, AI scripting, physics systems, and level design.
  - Experienced in creating engaging player experiences through iterative design and user testing.
- UI/UX & Visual Design:
  - - Crafts intuitive, visually appealing interfaces using Photoshop, Figma, and /Unreal UMG.
  - - Focus on player-centered interaction, accessibility, and design feedback loops.
- 3D Geometry & Game Physics:
  - - Solid understanding of vector/Matrix math, collisions, transformations.
  - - Implemented physics-driven interactions and dynamic camera systems within Unity.
- Programming & Software Engineering:
  - - Fluent in **C++**, **C#**, Java, JavaScript, and SQL with strong OOP design principles.
  - - Proficient in using design patterns, Git, and collaborative workflows for scalable development.
- App & Tool Development:
  - - Experience building mobile and desktop apps with Android Studio and Unity.
  - - Integrated APIs, data persistence, and performance optimizations for smooth deployment.
- Cloud & Development Tools:
  - - Working knowledge of AWS, Microsoft Azure, and cloud deployment concepts.
  - - Proficient with Microsoft Office, GitHub, and CI/CD pipelines for project management.

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## TECHNICAL SKILLS

<b>Programming Languages</b>	C & C++, C#, Java, JavaScript, SQL
<b>Software</b>	Unity 2D&3D, Android Studio, Photoshop, Unreal Engine
<b>Tools</b>	AWS, Microsoft Office

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## LEADERSHIP & COLLABORATION

- Experienced in leading small development teams and coordinating design efforts during internships and university projects.
  - Strong team collaboration and cross-functional communication skills, ensuring smooth integration of design, programming, and art workflows.
  - Proven organizational and leadership abilities from roles such as Team Design Lead and Event Coordinator at TechnoVIT.
  - Adaptable, proactive, and focused on continuous improvement and learning.
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## ACHIEVEMENTS

### Game-a-thon Winner at TechnoVIT, VIT Chennai

09/2023

Secured First Place at the Techno Game Development Competition.

### SBOAMUN Conference

06/2019

Photographer for the SBOAMUN Conference.

### Badminton Tournaments

2015-2019

Participated and secured 1st place in Club Tournaments.

### Inter-school Cultural Competitions

09/2023

Have participated and secured 2nd place/finalist in various photography competitions.

### National Cadet Corps (NCC)

2015-2018

Represented School in many events and parades.

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## PROJECTS (REFER GITHUB FOR ALL PROJECTS)

### Cloud's Rescue                      05/2023 – 09/2023

Mobile Game gamifying solving math problems

<https://github.com/Maneesh-Mrinal/CloudsRescue>

### Longest Drive                      09/2023 - Present

An Endless Driving game with a High-score System

<https://github.com/Maneesh-Mrinal/Longest-Drive>

### Rogue-Lite Game                      11/2023 - Present

Currently working on developing a video game in the rogue-lite genre (In Progress)

### Capstone Project                      1/2024 – 05/2024

Final Year Capstone Project titled "Automated Interview and Response Analysis"

### **Legend of Hamster**      1/2024

Developed during a 48 Hour Game Jam (Theme: Make me Laugh)

<https://globalgamejam.org/games/2024/legend-hamster-breath-food-heaven-2>

### **Project Grief (Game-a-thon Project)**    09/2023

Secured First Place at the Techno Game Development Competition.

### **Merging Puzzle Games**    11/2023

Anime-inspired Art Style and Mechanics inspired by Suika Game

<https://github.com/Maneesh-Mrinal/Suika-Game-Replica>

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## **INTERESTS**

- Gaming, Photography, Sports, Cooking, Art, Movies & TV