Harsh Kashinath Istalkar
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[Email] | [Portfolio] | [LinkedIn]

Professional Summary

Passionate and adaptable gameplay programmer with a strong foundation in **C++, C#, systems architecture**. Background in mechanical engineering with a transition into game development, blending **math, physics, and programming** to create engaging and efficient gameplay systems. Currently studying **Game Programming at Futuregames Stockholm**, seeking an internship between **May 2025 – December 2025** to expand my skills in building gameplay mechanics and/or tools.

Skills

- **Programming Languages:** C++, C#, Java, MATLAB
- **Game Engines:** Unreal Engine, Unity (DOTS & ECS), Custom Engines
- **Gameplay Development:** Physics, AI, Systems and Tools Programming
- **Optimization:** Memory-efficient programming, multi-threading, performance profiling
- **Tools & Software:** Git, Perforce, Visual Studio, Rider, Blender (basic)

Education

Futuregames Stockholm – Game Programming (Expected Graduation: 2025)

- Focus: **Gameplay programming, AI, physics-based mechanics, and tools programming**
- Relevant Courses: **Data-Oriented Design, Game AI, Multiplayer Systems, and Shader Programming**

Indian Institute of Technology – Studied 3 years of bachelor's in mechanical engineering

- Specialized in **mathematical modelling, simulation, and software development**

Game Projects

Hearth – Custom Rigid Body & Particle Physics Engine (C++)

- Developed a **renderer-agnostic, impulse based physics engine** capable of handling rigid body and particle simulations
- Designed an efficient **collision detection and resolution system** for optimized performance
- Implemented **early out** collision algorithms based on **bounding volume hierarchies** and **SAT theory**

Reberryon – 3D Platformer RTS (Unreal Engine, C++)

- Collaborated with a **14-person team** to develop a hybrid platformer-RTS gameplay experience
- Focused on **Mass AI pathfinding and editor tools**, enabling designers to create dynamic levels efficiently

Tramways – 2D Tram Management Game (Java)

- Built a **custom Java game engine** for real-time simulation and transport network management
- Designed and implemented **tram routing mechanics and map generation/ traffics spawning**

Experience

Formula Student – Vehicle Dynamics & Simulation Team Lead

[June 2020] – [June 2022]

- Led the **vehicle dynamics and simulation team** in a Formula Student project
- Developed **real-time simulation models** for vehicle handling and performance optimization
- Collaborated with other disciplines and made sure the everyone in the multi disciplinary team was on the same page and developing in the same direction

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Languages

- English (Fluent)
- Swedish (Beginner)