HARSH DULANI

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WORK EXPERIENCE

Lead Gameplay Programmer, Saturday Games - *Pune, India* *Jul 2025 – May 2026*

- Owned **end-to-end delivery** of a major live update (Dwelling), defining technical scope, driving system breakdown, and ensuring milestone adherence through release.
- Leading **gameplay architecture and system design** for a team of 6, ensuring cohesive integration across combat and player interaction systems.
- Architecting and implementing gameplay systems like **Combat, Quest, Interaction, Input Buffer, & Quick Time Events**.
- Driving **technical decision-making** across gameplay and design, including early-stage pivots to prevent rework and align systems with long-term scalability.
- Owning sprint planning and task breakdown, ensuring scope breakdown and predictable delivery.
- Setting engineering standards and mentoring developers, improving maintainability and reducing bug probability.

Project: Vengeance

- Built a **modular combat** and **traversal** gameplay framework integrating multiple player abilities with systemic gameplay features.
- Developed an **Input Buffer with context snapshot based scoring**, enabling responsive and flexible player interactions.
- Led a critical redesign of **parkour systems** during vertical slice, avoiding costly rework and aligning systems with scalable architecture.

Project: Banaras

- Developing **AI systems for boss encounters** and **enemy behaviors**, implementing state-driven decision logic for dynamic gameplay scenarios.
- Driving gameplay system design in collaboration with design, ensuring alignment between mechanics, pacing, and technical constraints.

Junior Programmer, Sumo Digital - *Pune, India* *Nov 2022 - Apr 2025*

Fall Guys (@Mediatonic London):

- Acted as primary **technical owner** for Blast Balls, Carryables/Draggables, and Bounceboards, serving as the go-to authority for system behavior and debugging.
- Owned Blast Ball systems across all game modes, ensuring **network reliability and physics consistency at scale**.
- Owned Carryables & Draggables systems, resolving interaction bugs and aligning player-facing behavior across differing implementations while supporting new gameplay features.
- Re-architected Bounceboard systems to **resolve client-server authority conflicts** in high player-count scenarios.
- Identified and resolved a **network replication issue in a shipped obstacle**, restoring correct network behavior.
- Improved gameplay stability by resolving physics and networking inconsistencies across interactive systems.

Project "Outbreak" (@RedKite Games – Sumo Leeds):

- Contributed to a **multithreaded, deterministic ECS-based population simulation** (40k+ entities), ensuring consistent behavior across clients.
- Designed and implemented **a traffic signal and crosswalk behavior**, enabling coordinated interaction between vehicles and pedestrians, including queuing logic and dynamic overcrowding avoidance.
- Built **simulation debugging and inspection tools** enabling deep analysis of per-entity data across frames behavior.
- Implemented **snapshot and rewind functionality**, storing ECS state efficiently to allow playback and debugging of the simulation.
- Designed pedestrian distribution system to achieve **realistic population flow across zones**.

Project "Protect Client" (@**Sumo Pune**):

- Implemented a Buff/Debuff system using **Gameplay Ability System**.
- Built AI-driven interaction systems enabling stealth kills and **contextual executions**.
- Enhanced parkour systems with **context-aware traversal and adaptive vaulting**.

Unity Game Developer, DayDreamz Studio - *Hyderabad, India* *Aug 2021 - Oct 2022*

- Led a team of up to 12, driving **end-to-end development** across gameplay and performance-critical systems.
- Engineered **reusable modular systems** adopted across multiple projects.
- Introduced design patterns and coding practices, improving **maintainability and reducing bug-prone implementations**.

Software Engineer, Indigital Technologies - *Mumbai, India* *Jul 2019 - Jan 2020*

- Architected an automation pipeline to streamline development of Unity projects, **reducing memory usage by up to 70%.**
- Developed **Unity minigames, VR showcases and product demos** for products by leading industry clients.

PROJECTS

Asteroid - A Game Engine Framework, *(C++, SFML, CMake) (GitHub)*

- Implemented Craig Reynold's Flocking algorithm, Local Collision Avoidance and Pathfinding using Velocity Obstacles algorithm, Implicit Grid Collision Detection using Spatial Partitioning, Abstracted object ownership
- Hierarchical Transforms using Dirty-bit pattern, Object Pooled Particle system and central Input Event Messaging.

SKILLS

Languages & Engines

C++, C# · Unreal Engine (UE4/UE5), Unity

Gameplay & System

Combat Systems, Player Interaction, Input Systems (Buffering, QTE), Gameplay Architecture, Motion Warping, ZoneGraph

AI & Simulation

State-driven AI, Behavior Trees, GOAP

Multiplayer & Performance

ECS, Client-Server Architecture, Network Replication, Multithreading, Optimization

Version Control

Perforce, Git, SVN

EDUCATION

B.E. Information Technology, University of Mumbai

Diploma in Game Design, FX School Mumbai (100% Scholarship)