URVASHI DHINGRA

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EDUCATION

Rochester Institute Of Technology (Research Assistant) — New York
Master of Science (M.S) - Game Design and Development; GPA: 4/4 — May 2025

University of Mumbai — Mumbai, India
Bachelor of Engineering (B.E) - Electronics Engineering; GPA: 3.86/4 — June 2021

EXPERIENCE

Rochester Institute of Technology | Research Assistant — Aug 2023 - Present

- Configuring **NVIDIA Omniverse** core components (**USD**, **Connectors**, **Kit SDK**), enabling real-time 3D collaboration.
- Building **digital twins** and 3D prototypes using **Action Graphs** and physics simulations, leveraging RTX.
- Developed interactive narrative worlds using GPT-4.0 for prompt engineering to generate dynamic gaming environments.
- Enhanced AI-powered gaming environments using **Llama** and **Alpaca LLMs** with **PDDL**, tailored to user-specific playstyles.

Magic Spell Studios at RIT | Backend Engineer — May 2024 - July 2024

- Programmed a VR prototype in **C#** to integrate data from the **SMART FHIR** server, generating 86,400 data points daily.
- Engineered **ETL** pipelines to ingest data into **SQLite**, boosting processing speed by 40% while ensuring HIPAA compliance.
- Conducted performance analysis with **Visual Studio Profiler** and optimized memory management in **C#**, reducing data processing time by 28% by streamlining **SQLite** operations and minimizing garbage collection overhead.

Quantiphi | Data Engineer — July 2021 - June 2023

- Created Python scripts for ETL, migrating 10+ TB of data from SQL Server to **Snowflake** while efficiently handling JSON formats.
- Automated unit testing for over 1,000 tables, covering millions of rows, to validate data integrity, improving testing efficiency by 40%.
- Built **GCP** workflows using Cloud Functions, **Cloud Storage**, BigQuery, and Dataflow, incorporating CI/CD pipelines to reduce deployment time by 50%, and used Tableau for real-time data analysis.

SKILLS

Programming languages: C#, C++, Java, Python, HTML, CSS, JavaScript, TypeScript
Libraries & Frameworks: Unity, Unreal, React.js, Node.js, Spring Boot
Databases & Cloud: SQL, SQLite, PLSQL, NoSQL (Firebase, MongoDB), JDBC, AWS, GCP, Snowflake
Platforms & Tools: Figma, JIRA, Git, Postman, REST APIs, OpenCV, Docker, Linux

PROJECTS

Duolatera | Unreal Engine (C++), Perforce, HLSL, RPC, Trello — August 2024 - Present

- Developed a scalable dialogue system in C++ for the VR onboarding level. Created various VR interactables, such as buttons, and ring sensors. Designed player character skeletal mesh with IK for hand and head movement replication.
- Implemented multiplayer networking using RPCs, emphasizing server reliability with RepNotify.
- Produced custom shaders using HLSL in Unreal Engine. Managed team workflow as a **Producer** using Trello for task assignments.

Tower Defense Game | Unity, C#, Gameplay Programmer, Producer, VFX — Feb 2024 - Apr 2024

- Developed a Tower Defense game in Unity using C#, and implemented functionality for different resource buildings managing health reduction when damaged by enemies.
- Implemented a resource management system for players to collect and use resources. Reflected changes dynamically during repairs, upgrades, or deletions of structures. Also, ensured that the in-game economy was updated accurately based on player actions
- Created particle systems to enhance the visual effects during gameplay.

Obra Dinn Shader | Unity Shader, Vertex Shader, Fragment Shader, C# — Apr 2024 - May 2024

- Constructed a custom Unity shader, replicating the Return of the Obra Dinn, using Vertex and Fragment shaders.
- Created a custom shader with grayscale dithering and real-time shading, applying lighting calculations to enhance low-poly models and achieve a dynamic, retro aesthetic.

ACCOMPLISHMENTS AND INVOLVEMENT

- **Patient Monitoring & Assisting System**: A Real-life Unity3D Application, in IEEE International Conference on Computational Science & Technology (ICCST 22), CHENNAI, India [DOI:10.1109/ICCST55948.2022.10040443].