NAMAN GUPTA

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EDUCATION

University of Southern California, Los Angeles, CA   **August 2019-May 2021**
MS in Computer Science   GPA: 3.5/4.0
Coursework: Data Structures and Algorithms, AR/VR, 3D graphics and rendering, Advanced Games Project
Kalinga Instituted of Industrial Technology, Bhubaneswar, India   **July 2015-May 2019**
BS in Computer Science   GPA: 8.9/10.0
Coursework: Software Engineering, Computer Networks, Operating Systems, Databases, Cloud Computing.

TECHNICAL SKILLS

Languages: Python, C, C++, C#, Java, JavaScript, Typescript, HTML5, CSS, SQL
Libraries/Frameworks: Visual Studio, .NET Standard, Unity, Jira, OpenGL
Version Control: Git, Github, Bitbucket, Perforce, SVN
Other Skills: Virtual reality, 3D Math, linear algebra, vector math, 3D Graphics programming,
Web-technologies: REST**,** AJAX**,** JSON, AWS, XML, Node.js, Flask, AngularJS, Bootstrap

WORK EXPERIENCE

USC Viterbi School of Engineering, Los Angeles, CA   **January 2021-May 2021**
Course Grader [ITP 382-Mobile Game Development]
- Graded assignments and tests; addressed students' queries; approved project ideas.

USC Institute for Creative Technologies, Los Angeles, CA   **March 2020-August 2020**
Gameplay Engineer Intern
- Enhanced real-time performance of an immersive virtual city developed in VR (HTC Vive) within Unity.
- Optimized rendering of graphical assets including lighting, shaders and meshes to reduce draw-calls to GPU.
- Employed techniques such as static batching, occlusion culling, LODs, object pooling and caching for optimization.
- Improved performance of unoptimized C# scripts by 30% by writing maintainable, portable and performant code.
- Achieved 55% increase in the average framerate.

Deloitte USI Consulting, Hyderabad, India   **January 2019-May 2019**
Software Engineer Intern
- Built Procure-to-Pay system to handle everything from purchase requisition through payment of goods/services.
- Created database in Oracle to store data for customers, products, and various relationships and transactions.
- Designed application's UI in Oracle Form Builder for accessing this database using PL/SQL code.
- Identified issues within databases, performed troubleshooting, and implemented effective solutions.

PROJECTS • *PORTOLIO*   More Projects - github.com/naman4real

Beat the Beat Up | *Demo*
- A VR action/rhythm game where combat is evocative of Bollywood dance and gameplay syncs with music.
- Led a team of 6 engineers. Programmed game mechanics, QuickTime events and combat.
- Solved challenging and complex problems around refining game logic for high-quality gameplay.
- Engineered new systems and tools to facilitate creation of exciting new content by members of Design team.
- Collaborated closely with design, art, and production teams in an agile environment for key game deliverables.

Showman
- 2D Top-down shooter game. Kill enemies, collect keys to doors, defeat the boss, win the game.
- Utilized ECS technology to create and spawn entities that made blood and bullet shells particle systems persistent.
- Incorporated AI through A* Pathfinding for NPC's by using Unity's Job system. Improved performance by 55%.
- Created character controls by making use of blend tress to map animations with movement.
- Outlined a level with enemy spawn points, stunning 2D lighting and sound effects, and weapon pickups.

Breathe Free | *Demo*
- A VR experience to gamify breathing exercises for kids having Cystic Fibrosis at Children's Hospital of LA.
- Devised 2 mini games that mimic therapy treatments in an immersive and engaging environment.
- Leveraged a novel digital spirometer to track inhale/exhale inputs.
- Developed core gameplay features, leaderboard system and UI.