

Yash Kapani

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Specializing in Augmented Reality and Game Development

Experienced software engineer specializing in augmented reality, virtual reality, and game development. Proven track record in developing innovative XR prototypes, SDKs, and game tools using Unity, Unreal Engine, and other game engines. Adept at collaborating with cross-functional teams to deliver high-quality software solutions.

EDUCATION

Master of Entertainment Arts and Engineering, Game Engineering

University of Utah | Aug 2014 - May 2016

Bachelor of Engineering, Computer Engineering

University of Mumbai | Jul 2011 - May 2014

EXPERIENCE

Senior Software Engineer XR - [Qualcomm](#)

San Diego, CA | Dec 2020 - Present | (Programming Languages: C++, C#)

- **XR Prototypes Development:** Led the development of XR prototypes for R&D using Unity3D, Stereokit, and Unreal Engine, enhancing the research capabilities of the team.
- **API Integration & Maintenance:** Worked closely with cross-functional teams to architect integration of perception and platform features with OpenXR
- **SDK Maintenance:** Developed and maintained [Snapdragon Spaces](#) Unity and Unreal engine SDKs, ensuring they were up-to-date and robust for developer use.
- **AR Studio development:** Developed and maintained proprietary games and applications to showcase hardware capabilities.
- **Support and Documentation:** Provided technical support to OEMs and game studios and maintained comprehensive documentation and video tutorials.

Software Engineer, 2K Sports — [Visual Concepts](#)

Miami, FL | Jun 2020 - Dec 2020 | (Programming Languages: C++, Python)

- **Tool Development:** Designed and implemented Python-based tools for the NBA2K series that integrated with the proprietary game engine, providing new functionalities and improvements, streamlining the game's development pipeline and enabling game designers.
- **Debugging and Testing:** Debugged and tested existing tools, ensuring they met the high standards of quality and performance required by the production team.

Software Engineer XR, - [Magic Leap](#)

Miami, FL | Aug 2019 - May 2020 | (Engines: Unity3D, UE4 Platforms: Lumin, PL: C#, C++)

- **Unity SDK Lead:** Acted as the primary engineer on the Unity SDK team, focusing on API integration, plugin development, and creating toolkits and helper classes for developers.
- **Unreal Integration:** Integrated APIs for Unreal Engine, ensuring smooth operation and enhanced functionality.
- **Documentation:** Authored detailed SDK documentation and release notes, helping developers to understand and utilize the SDK effectively.
- **Support:** Provided technical support and guidance to developers using the Magic Leap platform.

Developer, Creative & Emerging Tech - The Mill

Manhattan, NY | Dec 2017 - Aug 2019 | (Unity3D, UE4 C#, C++, JavaScript, Python)

- **Interactive Experiences:** Developed AR, VR, and MR experiences, creating immersive and engaging projects for clients.
- **Tool Development:** Created tools to integrate existing 3D pipelines with new technologies, enhancing the creative capabilities of the team.
- **Key Projects:**
 - **VR Projects:** [Gatorade Beat The Blitz](#), [Nissan TechDrive](#), [ATT ICW](#)

- **AR Projects:** [Dazer](#), [Nike JoyRide](#), [HBO Watchmen AR](#)
- **AR Effects:** Narcos AR, HTTYD, Jurassic World, Fantastic Beasts.
- **Realtime:** [Sesame Street](#), [Enigma Lady Gaga](#)

Software Engineer, Mira Labs — [SDK and Content](#)

Los Angeles, CA | May 2017 - Dec 2017 | (Platform: iOS & Android; PL: C#,C++)

- **SDK Development:** Developed SDKs for the Mira Prism AR headset, incorporating computer vision libraries such as Wikitude, Apple ARKit, Vuforia, and Kudan.
- **Networking:** Created P2P networking capabilities among headsets using Photon and iOS Multipeer, facilitating seamless multiplayer experiences.
- **UI/UX Guidance:** Guided UI/UX developers in efficiently using the SDK, providing tools like Game Managers, Network Managers, and State Machines for robust development.
- **Developer Support:** Coordinated with developers from various content studios to assist in application development using the Mira headset and SDK.

Game Programmer, Vueality — [Crayola Fashion Superstar](#)

Santa Monica, CA | Feb 2017 - May 2017 | (Game Engine: Unity3D, Vuforia, Platforms : iOS and Android)

- **Gameplay Mechanics:** Developed gameplay mechanics for an AR-powered fashion app, allowing users to create outfits from various combinations.
- **UI Structure:** Implemented a robust user interface structure, coordinating with AppManager to manage app states and modes.
- **Data Management:** Saved player data, unlocked items, and game data in player preferences, ensuring a seamless user experience.

Game Engineer, GAPP Lab ([Health & Therapeutic Games Lab](#))

Salt Lake City, UT | Aug 2015 - May 2016 | (Game Engine: Unity3D Platforms: Windows, WebGL)

- **Educational Game Development:** Led the development of "DinoLab" an educational game for the Natural History Museum of Utah, using Unity3D to teach children about dinosaur anatomy.
- **Therapeutic Application Development:** Created "Data Mural," an Android and Windows application for analyzing data from a breath sensor to detect tuberculosis symptoms.
- **Database Management:** Worked with senior DBAs to create a robust database using Postgres and RedCapp, ensuring accurate data storage and retrieval.

Game Programmer, Good Vibration Games — [Blind Trust](#)

Salt Lake City, UT | Dec 2014 - Jul 2016 | (Game Engine: Unity3D Platforms: Windows, Steam)

- **Game Development:** Developed "Blind Trust," a co-op game using binaural audio as a key mechanic, launched on Steam.
- **Game Structure:** Implemented game structure and flow, creating Game Manager and State Machine for synchronized gameplay.
- **Prototyping:** Created prototypes to test level designs and gameplay mechanics, refining the game through iterative development.

INDIVIDUAL PROJECT

3D Game Engine in C++

Aug 2014 - Jul 2016

- **Engine Features:** Implemented shared pointers, memory pool using bit arrays, memory manager, world and actor system, AABB and OABB collision detection, profiling, messaging, and debugging systems.
- **Rendering and Integration:** Developed 2D and 3D rendering using DirectX and OpenGL, integrated Lua for scripting, and built a shader, mesh, texture, material builder, and asset pipeline.
- **Audio and Networking:** Integrated FMOD for audio and RakNet for networking, developing a Capture the Flag style game using the engine.

TECHNICAL SKILLS

- **Programming Languages:** C++, C#, Python, JavaScript, Java, Lua, PHP, SQL, HTML
- **Development Platforms:** Windows, Android, iOS, Lumin, WebGL, A-Frame, Facebook
- **Game and CV Engines:** Unity3D, Unreal Engine, Apple ARKit, Spark AR, Phaser, Vuforia, Mono
- **Development Tools:** Visual Studio, Eclipse, Postgres, SQLite, Maya, Photoshop, Illustrator
- **Source Control:** SVN, GitHub, Perforce, Bitbucket
- **Task Management:** Trello, Asana, MS Projects, Slack, Jira, ftrack