Dennis Jin

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Summary

A highly skilled and innovative software engineer with extensive experience in developing immersive VR, AR, and 3D applications for diverse industries, including industrial training, e-commerce, military simulation, and automotive marketing. Proficient in leading-edge technologies such as Unity 3D, Unreal Engine 5, Photon PUN2, ARCore, ARKit, and Pixel Streaming, I specialize in creating engaging, photorealistic, and interactive solutions.

With a proven track record of delivering high-quality projects, I've developed:

- Multiplayer VR industrial simulators with voice chat and full-body avatars for HTC Vive using Unity 3D, Photon, VRTK, and Final IK.
- Augmented reality and WebGL-based virtual fitting rooms for luxury fashion, leveraging ARCore, ARKit, Houdini, Python, and three.js.
- VR military-style games and simulators, incorporating UE5, Unity 3D, multiplayer, and UltraLeap hand-tracking.
- A cutting-edge virtual showroom for Nissan's luxury cars using Unreal Engine 5 Pixel Streaming, delivering real-time, photorealistic customer experiences accessible via the web.

Known for solving complex technical challenges, I combine technical expertise with creativity to push the boundaries of immersive experiences. My work consistently demonstrates a commitment to innovation, collaboration, and delivering solutions that exceed client and user expectations.

Skills

- **Programming Languages:** C#, C++, Blueprint, Python
- **Game Engine:** Unreal Engine, Unity 3D
- **Databases:** MySQL, PostgreSQL, MongoDB, AWS, Azure
- **Platforms:** Mobile Application(Game, AR), VR Application(HTC Vive, Meta Quest, Google Cardboard), PC
- **Other Skills:** 3D Modelling(Blender, Maya, 3Ds Max, Zbrush), VFX & Simulation Design(Houdini, Marvelous Designer)

Experience

Nissan Luxury Car Showroom Project **Philipines, Remote**
Senior UE Specialist **08/2023 to 12/2024**

- Led the development of a cutting-edge virtual showroom for Nissan's luxury car line, utilising Unreal Engine 5's Pixel Streaming technology to deliver photorealistic, real-time 3D experiences, accessible via web browsers.
- Engineered and optimised the Pixel Streaming pipeline to ensure seamless, high-fidelity rendering and interactivity, even on low-spec client devices.
- Designed and implemented highly detailed 3D environments and car models, leveraging UE5's advanced rendering features such as Lumen and Nanite, for realistic lighting and geometry.
- Developed interactive features, including dynamic customisation options for car models, enabling users to explore configurations such as colour, trims, and features in real time.
- Conducted performance profiling and optimisations to reduce latency, and ensure smooth user experiences across diverse network conditions.
- Collaborated with designers, marketing teams, and stakeholders to align the virtual showroom with Nissan's brand identity and customer experience goals.

Key Achievements:

- Delivered a world-class virtual showroom experience that elevated customer engagement, and showcased Nissan's luxury vehicles in an innovative and accessible format.

- Achieved high levels of visual realism and interactivity through strategic use of Unreal Engine 5's latest technologies, and Pixel Streaming.

AGNB.tech **Maryland, United States, Remote**

Senior VR Game Specialist **12/2021 to 07/2023**

https://https.agnb.tech/

- Played a pivotal role in developing VR military simulators with a game-like style, utilising Unreal Engine 5 (UE5), and Unity 3D to deliver immersive and realistic virtual training experiences.
- Designed and implemented advanced multiplayer systems to facilitate collaborative and competitive gameplay within the simulators, ensuring seamless synchronisation and interaction among users.
- Integrated UltraLeap hand-tracking technology to enable natural and precise hand gestures, enhancing user immersion and interaction within the VR environment.
- Leveraged the capabilities of UE5 and Unity 3D to create visually stunning, highly detailed virtual worlds tailored to military training scenarios.
- Innovated in the integration of hand-tracking and multiplayer technologies, pushing the boundaries of VR simulation capabilities.

DeepGears **United Kingdom, Remote**

Senior Software Engineer | AR and WebGL Specialist **06/2020 to 11/2021**

https://deepgears.com/virtual-fitting-room

- Led the development of a cutting-edge Virtual Fitting Room platform for the Luxury and Fashion industry, combining AR and WebGL technologies to create immersive customer experiences.
- Utilised ARCore and ARKit to implement high-fidelity augmented reality solutions, enabling precise, and interactive virtual fitting capabilities.
- Developed a photorealistic human generator and fitting simulation pipeline using Houdini and Python, ensuring accurate body modelling and realistic clothing simulation.
- Integrated three.js to deliver seamless WebGL experiences, allowing users to visualise and interact with 3D garments directly on e-commerce platforms.
- Collaborated with cross-functional teams, including 3D artists and UX designers, to ensure high-quality visual outputs and user-friendly interfaces.
- Conducted performance optimisations for AR and WebGL applications, ensuring smooth and responsive user experiences across a range of devices.

Main Goals:

- Successfully delivered a Virtual Fitting Room solution that increased user engagement, and revolutionised the online shopping experience for luxury fashion brands.
- Innovated the use of AR and 3D technology in e-commerce, setting new industry benchmarks for immersive customer experiences.

IFFEN VR **Paris, France, Remote**

Senior VR developer **12/2018 to 05/2020**

https://i-oasis.fr/en/vr-training-courses

- Spearheaded the full development of VR Industrial Training Simulators using Unity 3D, optimised for the HTC Vive platform to deliver immersive and practical training experiences.
- Implemented robust multiplayer systems with Photon PUN2, enabling real-time interaction and collaboration among users in training simulations.
- Integrated Photon Voice to provide seamless voice chat functionality, enhancing communication and teamwork during multiplayer sessions.
- Overcame UI control challenges specific to HTC Vive by utilising VRTK, ensuring intuitive and efficient user interactions for industrial applications.
- Designed and deployed realistic full-body avatars using Final IK, enhancing user immersion and presence within the virtual training environments.
- Delivered high-quality VR simulators through rigorous testing and optimisation, meeting industry standards and project deadlines.

Key Achievements:

- Successfully published multiple VR Industrial Training Simulators that improved training efficiency and user engagement.
- Pioneered innovative VR solutions by leveraging Unity 3D's capabilities to meet the unique demands of industrial training.

Ghost Ship Games

Senior AR/Game Developer **01/2017 to 11/2018**

- Developed and deployed multiplayer 2D RPGs with seamless cross-platform compatibility.
- Developed a 2D side-scrolling game with procedurally generated levels, and randomised enemy encounters.
- Created complex AI systems that adapted to player strategies, ensuring challenging and engaging gameplay.
- Integrated social features like leaderboards, achievements, and multiplayer challenges to enhance user retention.
- Optimised game assets and managed memory usage to meet tight performance benchmarks.

Atomic Torch Studio

Junior Software Engineer **12/2014 to 12/2016**

- Worked on a mobile puzzle game that achieved high ratings on Google Play, and the App Store.
- Developed interactive tutorials and in-game tips to guide new players, and reduce churn.
- Enhanced game visuals by implementing custom shaders for dynamic lighting, and shadows.
- Performed bug fixes, and conducted QA testing for both Android and iOS platforms to ensure smooth gameplay experiences.
- Collaborated with designers to refine game levels and user interfaces.
- Gained in-depth experience in Unity's rendering pipeline and scripting tools.

Education

Bachelor’s degree: **Computer Science** **06/2010 – 09/2014**
The Hong Kong University of Science and Technology

Accomplishments and awards

- Successfully delivered immersive VR and AR solutions, including industrial training simulators, virtual fitting rooms, and military-style simulations, using Unity 3D, Unreal Engine 5, and advanced technologies like Photon, Lyra, UltraLeap, and Pixel Streaming.
- Led the development of Nissan’s photorealistic virtual showroom, setting a benchmark in automotive marketing with real-time web-based interactivity.
- Recognized for innovation, cross-platform expertise, and performance optimization in delivering high-quality, user-centric immersive experiences.