



Up to **53%**
faster in inference speed of PRN model on the 3rd Gen Intel® Xeon® Scalable Processors than on the last generation platform ¹.

Up to **4.23X**
improvement in overall performance of PRN model on the 3rd Gen Intel® Xeon® Scalable Processors with INT8 quantization compared with the last generation platform ².

One of the world's leading game development and operation company is accelerating its PRN model-based 3D face reconstruction solution with low-precision inference, effectively saving computing power while ensuring accuracy and precision, boosting development efficiency and gaming experience.

The rapid development of deep learning has been drawing more attention to the more refined 3D face reconstruction technologies in online games, education and e-commerce areas. As one of the world's leading game development and operation company, Tencent Games is working with Intel to build a new 3D face reconstruction solution with Position Map Regression Network (PRN).

To further improve implementation efficiency and user experience and accelerate the new solution with low-precision approach, Tencent Games is introducing the 3rd Gen Intel® Xeon® Scalable Processors with more cores, further optimized architecture and higher memory capacity for upgraded computing support, along with built-in Intel® DL Boost and Intel® Low Precision Optimization Tool (Intel® LPOT) for significant improvement of inference efficiency while ensuring accuracy and precision. Currently, the new 3D face reconstruction solution is being adopted in game character generation and character model shifting, significantly improving development efficiency while bringing smoother gaming experience to players. It has also provided valuable references for deploying deep learning applications on the 3rd Gen Intel® Xeon® Scalable Processors.

Based on this successful exploration, Tencent Games and Intel plan to leverage the strong computing power and AI acceleration capacity of Intel® architecture-based products to improve the efficiency of more AI applications for sound adoption in richer scenes.

Products and Solutions

[3rd Gen Intel® Xeon® Scalable Processors](#)

[Intel® DL Boost \(VNNI\)](#)

[Intel® LPOT](#)

Industry

Internet

Organization scale

10,001+

Country

China

1. 2 For more complete information about performance and benchmark results, visit <https://intel.com/content/www/us/en/artificial-intelligence/posts/tencent-3d-digital-face-reconstruction.html>