



NVIDIA and Developers Pioneer Lifelike Digital Characters for Games and Applications With NVIDIA Avatar Cloud Engine

NVIDIA ACE Microservices Debut With Generative AI Models That Will Change How People Interact With Digital Avatars

CES — NVIDIA today introduced production microservices for the [NVIDIA Avatar Cloud Engine](#) (ACE) that allow developers of games, tools and middleware to integrate state-of-the-art generative AI models into the digital avatars in their games and applications.

The new ACE microservices let developers build interactive avatars using AI models such as [NVIDIA Omniverse Audio2Face](#)™ (A2F), which creates expressive facial animations from audio sources, and [NVIDIA Riva](#) automatic speech recognition (ASR), for building customizable multilingual speech and translation applications using generative AI.

Developers embracing ACE include [Charisma.AI](#), [Convai](#), [Inworld](#), [miHoYo](#), [NetEase Games](#), [Ourpalm](#), [Tencent](#), [Ubisoft](#) and [UneeQ](#).

“Generative AI technologies are transforming virtually everything we do, and that also includes game creation and gameplay,” said Keita Iida, vice president of developer relations at NVIDIA. “NVIDIA ACE opens up new possibilities for game developers by populating their worlds with lifelike digital characters while removing the need for pre-scripted dialogue, delivering greater in-game immersion.”

Top Game and Interactive Avatar Developers Embrace NVIDIA ACE

Top game and interactive avatar developers are pioneering ways ACE and generative AI technologies can be used to transform interactions between players and non-playable characters (NPCs) in games and applications.

“For years NVIDIA has been the piper of gaming technologies, delivering new and innovative ways to create games,” said Zhipeng Hu, senior vice president of NetEase and head of LeiHuo business group. “NVIDIA is making games more intelligent and playable through the adoption of gaming AI technologies, which ultimately creates a more immersive experience.”

“This is a milestone moment for AI in games,” said Tencent Games. “NVIDIA ACE and Tencent Games will help lay the foundation that will bring digital avatars with individual, lifelike personalities and interactions to video games.”

NVIDIA ACE Brings Game Characters to Life

NPCs have historically been designed with predetermined responses and facial animations. This limited player interactions, which tended to be transactional, short-lived and, as a result, skipped by a majority of players.

“Generative AI-powered characters in virtual worlds unlock various use cases and experiences that were previously impossible,” said Purnendu Mukherjee, founder and CEO at Convai. “Convai is leveraging Riva ASR and A2F to enable lifelike NPCs with low-latency response times and high-fidelity natural animation.”

To showcase how ACE can transform NPC interactions, NVIDIA worked with [Convai](#) to expand the NVIDIA Kairos demo, which debuted at Computex, with a number of new features and inclusion of ACE microservices.

In the [latest version of Kairos](#), Riva ASR and A2F are used extensively, improving NPC interactivity. Convai’s new framework allows NPCs to converse among themselves and gives them awareness of objects, enabling them to pick up and deliver items to desired areas. Furthermore, NPCs gain the ability to lead players to objectives and traverse worlds.

The Audio2Face and Riva automatic speech recognition microservices are [available now](#). Interactive avatar developers can incorporate the models individually into their development pipelines.

About NVIDIA

Since its founding in 1993, [NVIDIA](#) (NASDAQ: NVDA) has been a pioneer in accelerated computing. The company’s invention of the GPU in 1999 sparked the growth of the PC gaming market, redefined computer graphics, ignited the era of modern AI and is fueling industrial digitalization across markets. NVIDIA is now a full-stack computing company with data-center-scale offerings that are reshaping industry. More information at <https://nvidianews.nvidia.com/>.

Certain statements in this press release including, but not limited to, statements as to: the benefits, impact, performance, and availability of our products, services, and technologies, including NVIDIA Avatar Cloud Engine, NVIDIA Omniverse Audio2Face, and NVIDIA Riva automatic speech recognition; generative AI technologies transforming game creation and

gameplay; and our collaborations with third parties are forward-looking statements that are subject to risks and uncertainties that could cause results to be materially different than expectations. Important factors that could cause actual results to differ materially include: global economic conditions; our reliance on third parties to manufacture, assemble, package and test our products; the impact of technological development and competition; development of new products and technologies or enhancements to our existing product and technologies; market acceptance of our products or our partners' products; design, manufacturing or software defects; changes in consumer preferences or demands; changes in industry standards and interfaces; unexpected loss of performance of our products or technologies when integrated into systems; as well as other factors detailed from time to time in the most recent reports NVIDIA files with the Securities and Exchange Commission, or SEC, including, but not limited to, its annual report on Form 10-K and quarterly reports on Form 10-Q. Copies of reports filed with the SEC are posted on the company's website and are available from NVIDIA without charge. These forward-looking statements are not guarantees of future performance and speak only as of the date hereof, and, except as required by law, NVIDIA disclaims any obligation to update these forward-looking statements to reflect future events or circumstances.

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