How to Build Generative AI Applications and 3D Virtual Worlds

New NVIDIA Training courses equip organizations to harness the power of these cutting-edge technologies.

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To grow and succeed, organizations must continuously focus on technical skills development, especially in rapidly advancing areas of technology, such as generative AI and the creation of 3D virtual worlds.

NVIDIA Training , which equips teams with skills for the age of AI, high performance computing and industrial digitalization, is announcing new courses that cover these technologies. The program has already equipped hundreds of thousands of students, developers, researchers and data scientists with critical technical skills.

With its latest courses, NVIDIA Training is enabling organizations to fully harness the power of generative AI and virtual worlds, which are transforming the business landscape.

Generative AI is revolutionizing the ways organizations work. It enables users to quickly generate new content based on a variety of inputs, including text, images, sounds, animation, 3D models and other data types.

New and upcoming NVIDIA Training courses on gen AI include:

Generative AI Explained — Generative models are accelerating application development for many use cases, including question-answering, summarization, textual entailment, 2D and 3D image and audio creation. In this two-hour course, Bryan Catanzaro , vice president of applied deep learning research at NVIDIA, provides an overview of gen AI's major developments, where it stands now and what it could be capable of in the future. He'll discuss technical details and popular generative AI applications, as well as how businesses can responsibly use the technology.

Generative AI With Diffusion Models — Thanks to improvements in computing power and scientific theory, generative AI is more accessible than ever. Get started with gen AI application development with this hands-on course where students will learn how to build a text-to-image generative AI application using the latest techniques. Generate images with diffusion models and refine the output with various optimizations. Build a denoising diffusion model from the U-Net architecture to add context embeddings for greater user control.

To see a complete list of courses on generative AI and large language models , check out these NVIDIA Training Learning Paths .

Advancements in digital world-building are transforming media and entertainment, architecture, engineering, construction and operations, factory planning and avatar creation, among other industries.

Immersive 3D environments elevate user engagement and enable innovative solutions to real-world problems. NVIDIA Omniverse , a platform for connecting and developing 3D tools and applications, lets technical artists, designers and engineers quickly assemble complex and physically accurate simulations and 3D scenes in real time, while seamlessly collaborating with team members.

New and upcoming NVIDIA Training courses on this topic include:

Essentials of USD in NVIDIA Omniverse — Universal Scene Description , or OpenUSD, is transforming 3D workflows across industries. It's an open standard enabling 3D artists and developers to connect , compose and simulate in the metaverse . Students will learn what makes OpenUSD unique for

designing 3D worlds. The training covers data modeling using primitive nodes, attributes and relationships, as well as custom schemas and composition for scene assembly and collaboration.

Developing Omniverse Kit Applications — Learn how to use the NVIDIA Omniverse Kit development framework to build applications, custom extensions and microservices. Applications may comprise many extensions working in concert to address specific 3D workflows, like industrial digitalization and factory planning. Students will use Omniverse reference applications, like Omniverse USD Composer and USD Presenter, to kickstart their own application development.

Bootstrapping Computer Vision Models With Synthetic Data — Learn how to use NVIDIA Omniverse Replicator , a core Omniverse extension, to accelerate the development of computer vision models. Generate accurate, photorealistic, physics-conforming synthetic data to ease the expensive, time-consuming task of labeling real-world data. Omniverse Replicator accelerates AI development at scale and reduces time to production.

To see a complete list of courses on graphics and simulation, check out these NVIDIA Training Learning Paths .

NVIDIA Training offers courses and resources to help individuals and organizations develop expertise in using NVIDIA technologies to fuel innovation. In addition to those above, a wide range of courses and workshops covering AI, deep learning, accelerated computing, data science, networking and infrastructure are available to explore in the training catalog .

At the SIGGRAPH conference session “Reimagine Your Curriculum With OpenUSD and NVIDIA Omniverse,” Laura Scholl, senior content developer on the Omniverse team at NVIDIA, will discuss how to incorporate OpenUSD and Omniverse into an educational setting using teaching kits, programs for educators and other resources available from NVIDIA.

Learn about the latest advances in generative AI, graphics and more by joining NVIDIA at SIGGRAPH . NVIDIA founder and CEO Jensen Huang will deliver a keynote address on Tuesday, Aug. 8, at 8 a.m. PT.