NVIDIA DEVELOPER PROGRAM

AGENDA

NVIDIA Developer Program Benefits

Becoming an NVIDIA Developer

Developer Engagement Platforms

Navigating NVIDIA Developer Platforms

NVIDIA DEVELOPER PROGRAM BENEFITS

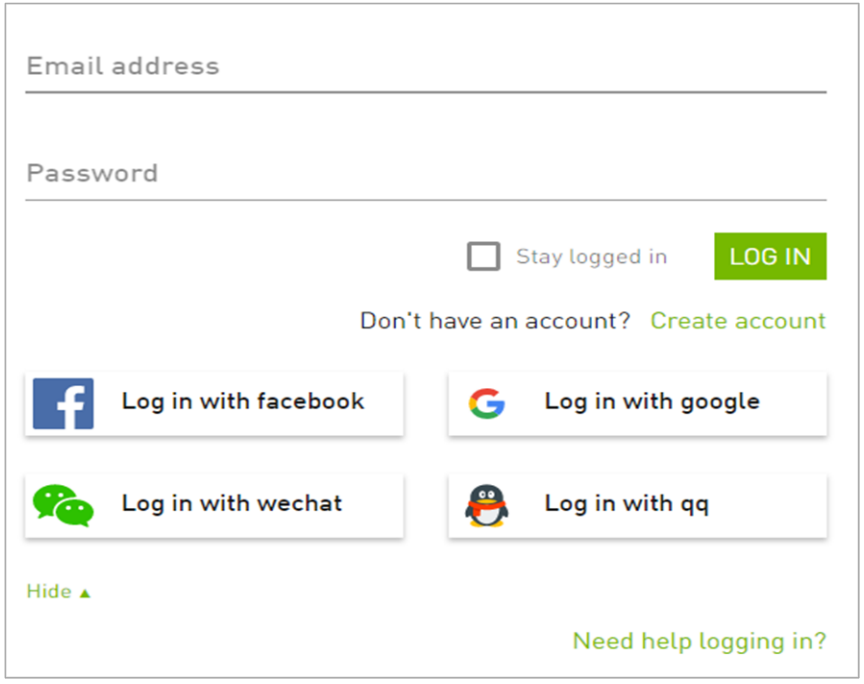
- Product downloads and early access opportunities
- Information about new product releases and features
- Access to community and NVIDIA technical staff through forums
- Issue and bug submission
- Customer stories, technical blogs, and whitepapers
- Online technical documentation and code samples
- Self paced training and professional on-site workshops
- Invites to exclusive developer events

GETTING STARTED

Go to developer.nvidia.com/join or click the "*Join*" and "*Create account*" links on NVIDIA developer web pages

NVIDIA account credentials provide you access to:

- All NVIDIA Developer Platforms
- NVIDIA GPU Cloud (NGC)
- NVIDIA's consumer programs including GeForce Now and GeForce Experience



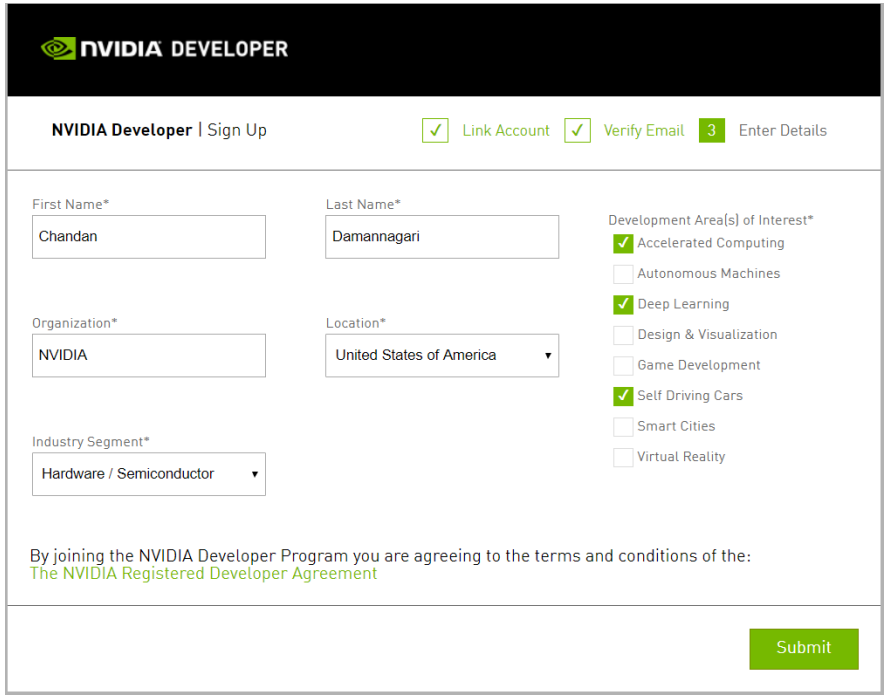
GETTING STARTED

Using your professional email gives you higher priority when reporting issues and consideration when applying for early access programs

Opting-in to communications gives you the latest information on product releases, news, and special events

The “Developer Areas of Interest” help us send you the most relevant updates and information

NVIDIA will never share your information with 3rd parties



DEVELOPER ENGAGEMENT PLATFORMS

Information, downloads, special programs, code samples, and bug submission	developer.nvidia.com
Containers for cloud and workstation environments	ngc.nvidia.com
Insights & help from other developers and NVIDIA technical staff	devtalk.nvidia.com
Technical documentation	docs.nvidia.com
Deep Learning Institute: workshops & self-paced courses	courses.nvidia.com
In depth technical how to blogs	devblogs.nvidia.com
Developer focused news and articles	news.developer.nvidia.com
Webinars	nvidia.com/webinar-portal
GTC on-demand content	gputechconf.com

TOP LEVEL NAVIGATION

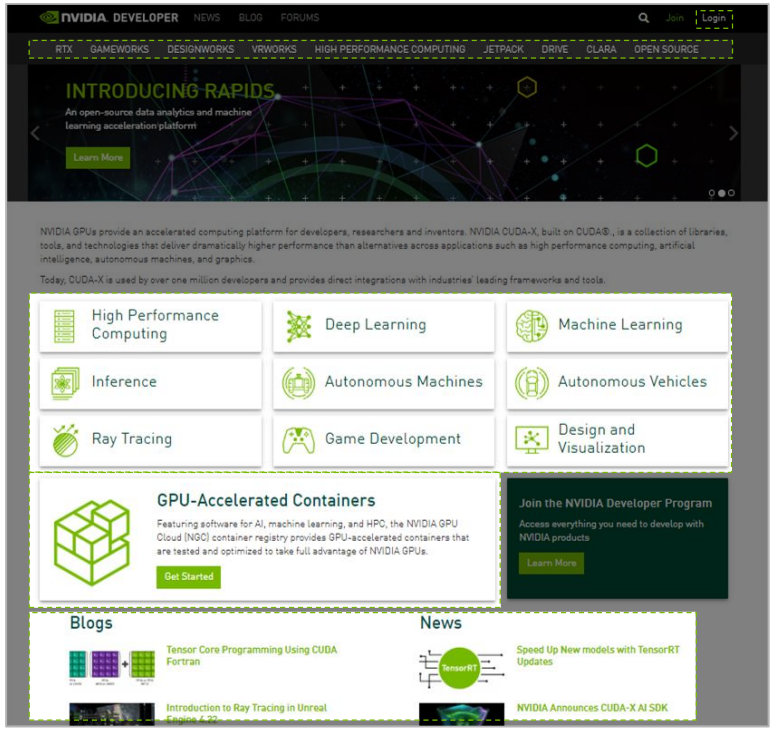
developer.nvidia.com

Login using your NVIDIA Account
[Some downloads require login]

Domain-specific technology areas

NGC containers

Highlighted developer news and blogs



CUDA TOOLKIT

developer.nvidia.com/cuda-toolkit

NVIDIA. ACCELERATED COMPUTING Downloads Training Ecosystem Forums Chandan

CUDA Toolkit

Home > High Performance Computing > CUDA Toolkit

Develop, Optimize and Deploy GPU-accelerated Apps

The NVIDIA® CUDA® Toolkit provides a development environment for creating high performance GPU-accelerated applications. With the CUDA Toolkit, you can develop, optimize and deploy your applications on GPU-accelerated embedded systems, desktop workstations, enterprise data centers, cloud-based platforms and HPC supercomputers. The toolkit includes GPU-accelerated libraries, debugging and optimization tools, a C/C++ compiler and a runtime library to deploy your application.

GPU-accelerated CUDA libraries enable drop-in acceleration across multiple domains such as linear algebra, image and video processing, deep learning and graph analytics. For developing custom algorithms, you can use available integrations with commonly used languages and numerical packages as well as well-published development APIs. Your CUDA applications can be deployed across all NVIDIA GPU families available on premise and on GPU instances in the cloud. Using built-in capabilities for distributing computations across multi-GPU configurations, scientists and researchers can develop applications that scale from single GPU workstations to cloud installations with thousands of GPUs.

To get started, browse through online getting started resources, optimization guides, illustrative examples and collaborate with the rapidly growing developer community.

Download Now >

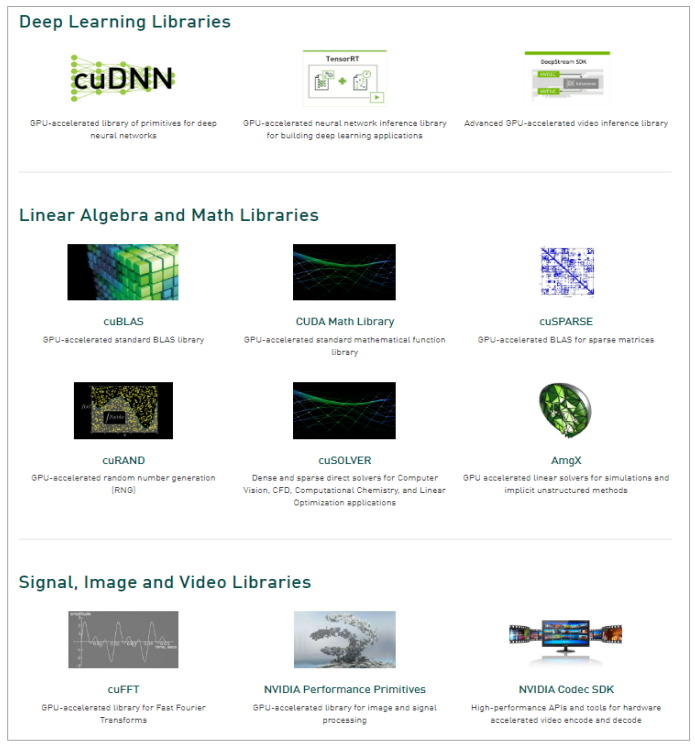
CUDA 10.1 Update 1: What's New... >

COMPONENTS AND RESOURCES

- GPU-accelerated Libraries
- Developer Tools
- Documentation
- Sample Code
- Getting Started
- CUDA Developer Blogs
- Training
- Community

CUDA-X & PARTNER LIBRARIES

developer.nvidia.com/gpu-accelerated-libraries



Over 40 gpu-accelerated libraries as part of CUDA-X, in addition to numerous partner libraries

PROFILING & DEBUGGING TOOLS

developer.nvidia.com/tools-overview

NVIDIA. DEVELOPER NEWS BLOG FORUMS Chandan

RTX GAMEWORKS DESIGNWORKS VRWORKS HPC METROPOLIS DRIVE CLARA OPEN SOURCE

Home > DEVELOPER > NVIDIA Developer Tools Overview

NVIDIA Developer Tools Overview

NVIDIA Developer Tools are a collection of applications, spanning desktop and mobile targets, which enable developers to build, debug, profile, and develop class leading and cutting edge software that utilizes the latest visual computing hardware from NVIDIA.

Developer Tools Downloads >

Nsight Productivity Utilities

NVIDIA® Nsight™ Systems

NVIDIA® Nsight Systems™ is a system-wide performance analysis tool designed to visualize an application's algorithms, identify the largest optimization opportunities, and tune to scale efficiently across any quantity or size of CPUs and GPUs; from large servers to our smallest SoC.

Read More >

NVIDIA® Nsight™ Compute

NVIDIA® Nsight™ Compute is an interactive kernel profiler for CUDA applications. It provides detailed performance metrics and API debugging via a user interface and command line tool. Nsight Compute also provides customizable and data-driven user interface and metric collection that can be extended with analysis scripts for post-processing results.

Read More >

NVIDIA® Nsight™ Graphics

NVIDIA® Nsight Graphics™ is a standalone application for the debugging, profiling, and analysis of graphics applications. It allows you to optimize the performance of your Direct3D 11, Direct3D 12, DirectX Raytracing, OpenGL, Vulkan, and NVIDIA VKRay based applications.

Read More >

NVIDIA® Nsight™ Visual Studio Edition

An application development environment for heterogeneous platforms, Nsight Visual Studio Edition brings GPU computing into Microsoft Visual Studio. Build, debug, profile and trace heterogeneous compute, graphics, virtual reality, RTX, .NET, and UWP applications built with CUDA C/C++, OpenCL, DirectCompute, Direct3D (11,12,DXR), Vulkan (1.1, Vulkan Ray Tracing Extension), OpenGL, OpenVR, and the Oculus SDK.

Read More >

NVIDIA® Nsight™ Eclipse Edition

NVIDIA® Nsight™ Eclipse Edition is a full-featured IDE powered by the Eclipse platform that provides an all-in-one integrated environment to edit, build, debug, and profile CUDA-C applications. Nsight Eclipse Edition supports a rich set of commercial and free plugins.

Read More >

DATACENTER TOOLS

developer.nvidia.com/datacenter-management-gpu

Data Center Tools for NVIDIA GPUs

Home

NVIDIA GPU accelerated data centers are increasingly being used to run production deep learning and high-performance computing (HPC) applications. Teams of researchers, developers and data scientists share data center resources to design and develop software and algorithms, train deep learning models, run simulations, perform testing and validations, and also deploy applications and models to productions in the same or deployment data centers on-prem or in the cloud.

NVIDIA works closely with its ecosystem partners to provide developers and DevOps with software tools for every step of the AI and HPC software life cycle.

Develop, Train, Simulate

GPU-Optimized Containers

NVIDIA offers GPU-accelerated deep learning and HPC containers from NVIDIA GPU Cloud (NGC) that are optimized to deliver maximum performance on NVIDIA GPUs. The NGC container registry includes NVIDIA tuned, tested, certified, and maintained containers for the top deep learning software like TensorFlow, PyTorch, MXNet, TensorRT, and more. NGC also has third-party managed HPC application containers, and NVIDIA HPC visualization containers. This eliminates the need for developers, data scientists and researchers to manage packages and dependencies or build deep learning frameworks from source.

Get NGC Containers >

Schedule and Orchestrate

NVIDIA Container Runtime

NVIDIA Container Runtime is a GPU aware container runtime, compatible with popular container technologies such as Docker, LXC and CRI-O. It simplifies the process of building and deploying containerized GPU-accelerated applications to desktop, cloud or data centers.

Learn More >

Kubernetes on NVIDIA GPUs

Kubernetes on NVIDIA GPUs enables enterprises to scale up training and inference deployment to multi-cloud GPU clusters seamlessly. It lets you automate the deployment, maintenance, scheduling and operation of multiple GPU accelerated application containers across clusters of nodes.

Learn More >

Cluster Management Tools

NVIDIA GPUs are supported by a number of 3rd party schedulers and cluster management software.

Learn More >

Manage and Monitor

Data Center GPU Manager (DCGM)

NVIDIA DCGM is a suite of tools for managing and monitoring GPUs in cluster environments. It includes active health monitoring, comprehensive diagnostics, system alerts and governance policies including power and clock management. It can be used standalone by system administrators and easily integrates into cluster management, resource scheduling and monitoring products from NVIDIA partners.

Learn More and Download >

NVIDIA Management Library (NVML)

NVML is an SDK for monitoring and managing various states of the NVIDIA GPU devices. It provides a direct access to the queries and commands exposed via nvidia-smi. The SDK provides the appropriate header, stub libraries and sample applications.

Learn More and Download >

SOFTWARE DOWNLOADS

Navigate from the developer homepage to the individual product pages and then to the corresponding download pages to install the latest and archived versions of software.

LOCAL INSTALLERS, LOCAL REPOS

These packages are usually larger and contain all the files needed to install on your development system

NETWORK INSTALLER

The download is a thin client which downloads the latest version from a fixed web location

NETWORK REPOS

Linux repos containing the latest and past releases, installable using “apt-get”

SDK MANAGER

Client side installation manager, currently delivering DRIVE and Jetson SW

NGC

Containers with pre-installed SDKs, runtimes, NVIDIA optimized frameworks

NGC

nvidia.com/ngc

Accelerate Time-to-Solution

NGC accelerates productivity with easy to deploy, optimized AI frameworks, and HPC application containers so users can focus on building their solutions.

Simplify AI Adoption

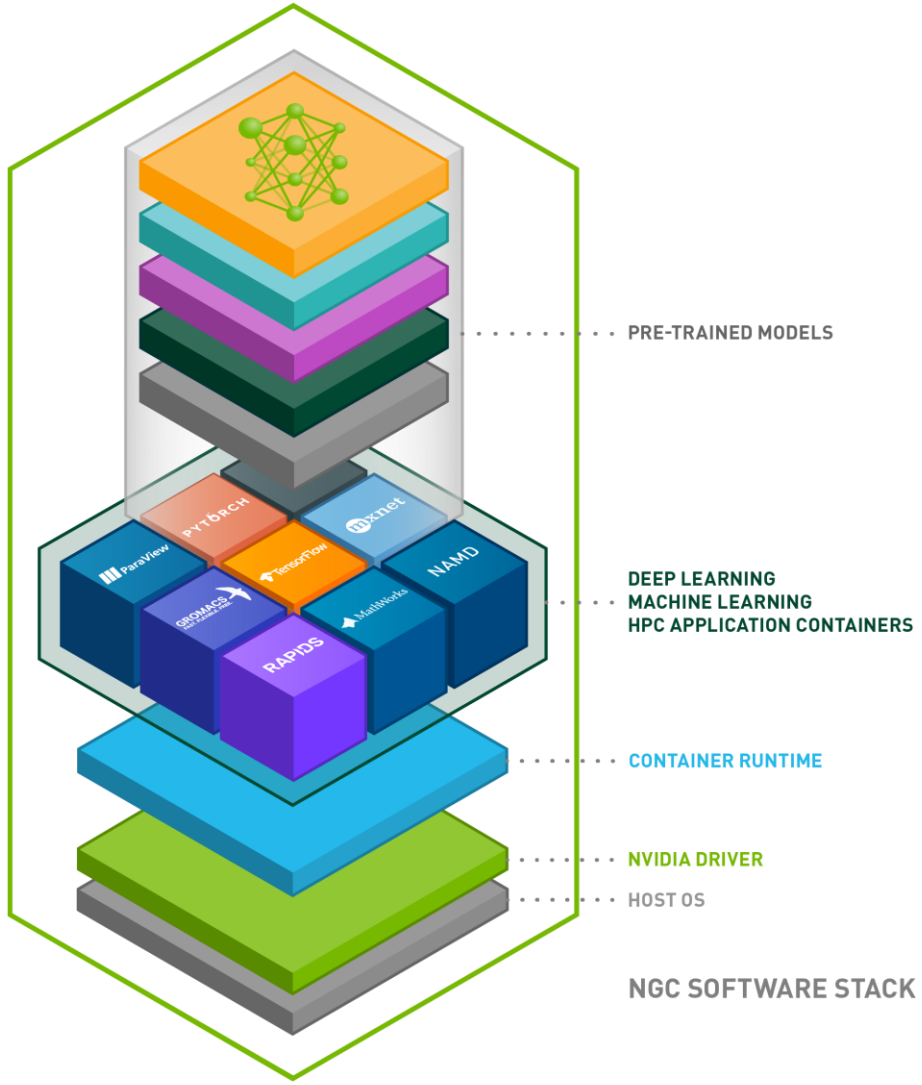
NGC lowers the barrier to AI adoption by taking care of the heavy lifting (expertise, time, compute resources) with pre-trained models and workflows with best-in-class accuracy and performance.

Run Anywhere You Have NVIDIA GPUs

Run software from NGC on-prem, in the cloud, or using hybrid deployments. This maximizes utilization of GPUs, portability, and scalability.

Deploy NGC Software with Confidence

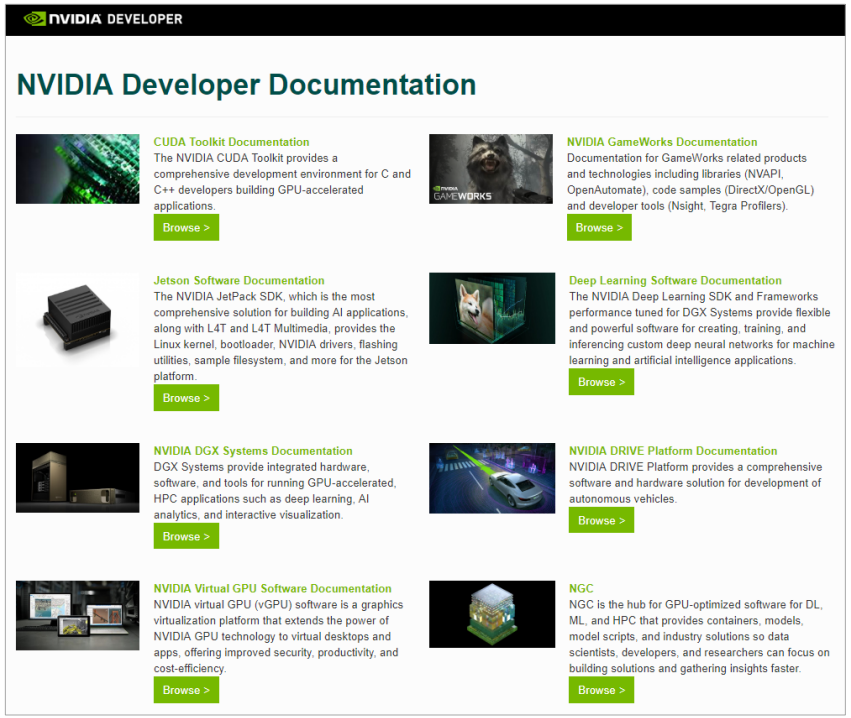
Enterprise-grade support for NGC-Ready systems provides direct access to NVIDIA's experts, minimizing system downtime, and maximizing system utilization and productivity.

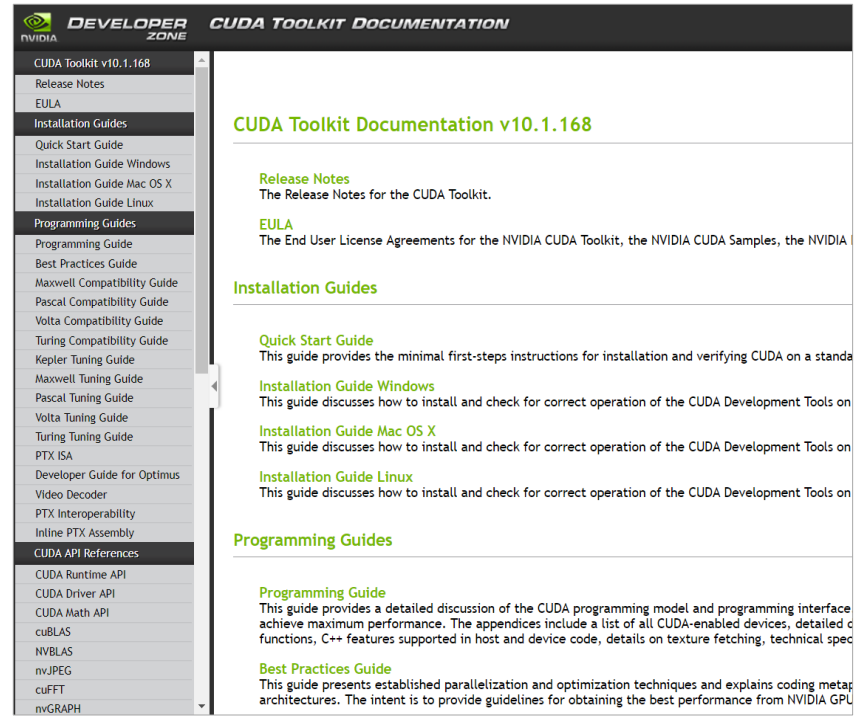


TECHNICAL DOCUMENTATION

Browse installation, programming, and performance guides by product

docs.nvidia.com





SUBMITTING ISSUES AND BUGS

Login to developer.nvidia.com

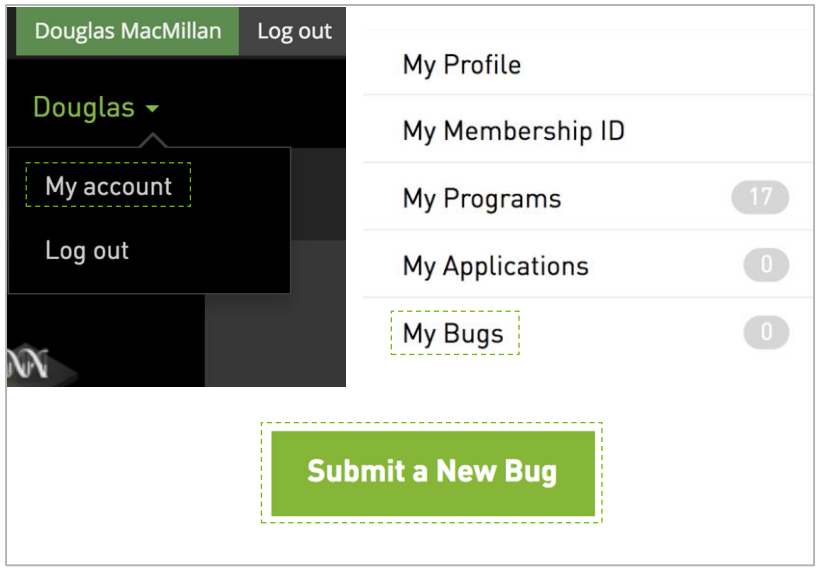
Follow the "*My account*" link below your username, top right

Follow "*My Bugs*" link on menu, bottom left

Log issues using "*Submit a New Bug*" button, top right

Follow progress of any submitted issues in My Bugs Section

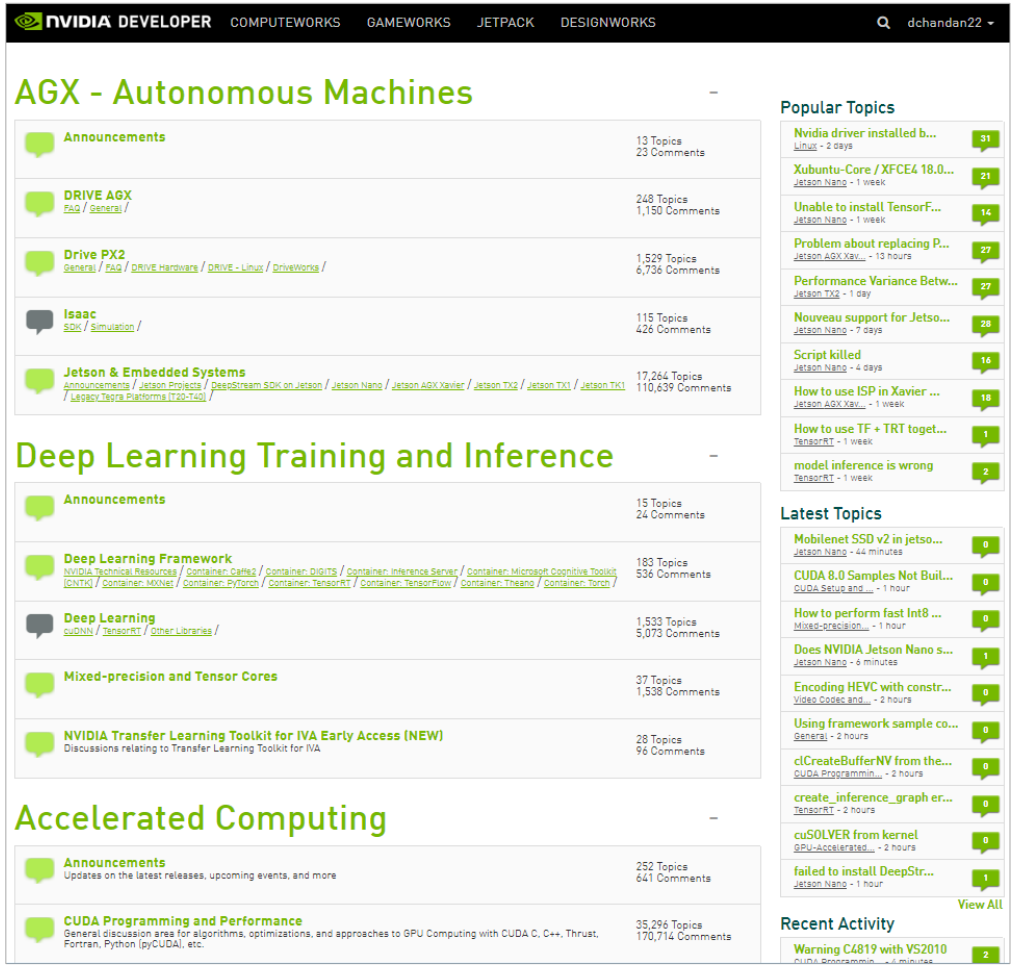
https://developer.nvidia.com/nvidia_bug/add



FORUMS

Browse topics of interest and get your product questions answered

devtalk.nvidia.com



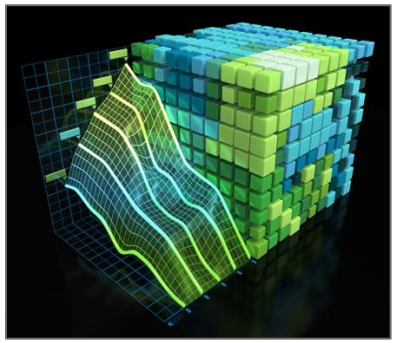
NVIDIA DEEP LEARNING INSTITUTE

Hands-on, self-paced and instructor-led training in deep learning and accelerated computing for developers

Request onsite instructor-led workshops at your organization:
nvidia.com/requestdli

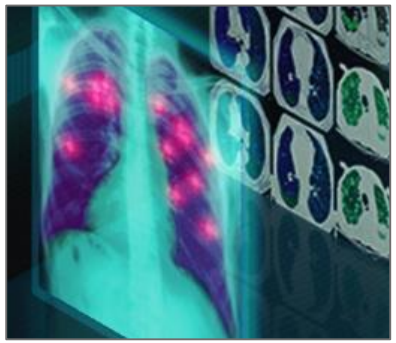
Take self-paced courses online:
nvidia.com/dlilabs

Download the course catalog, view upcoming workshops, and learn about the University Ambassador Program:
nvidia.com/dli

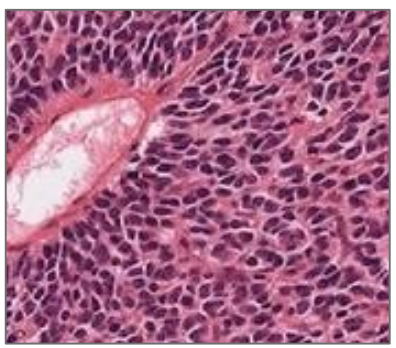


Accel. Computing Fundamentals

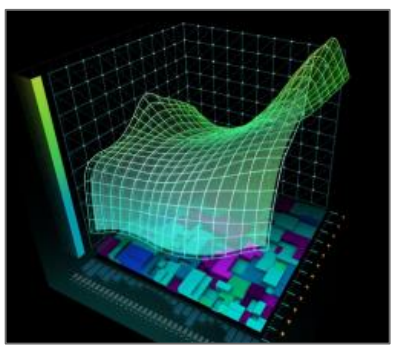
Autonomous Vehicles



Medical Image Analysis



Genomics



Finance

Digital Content Creation

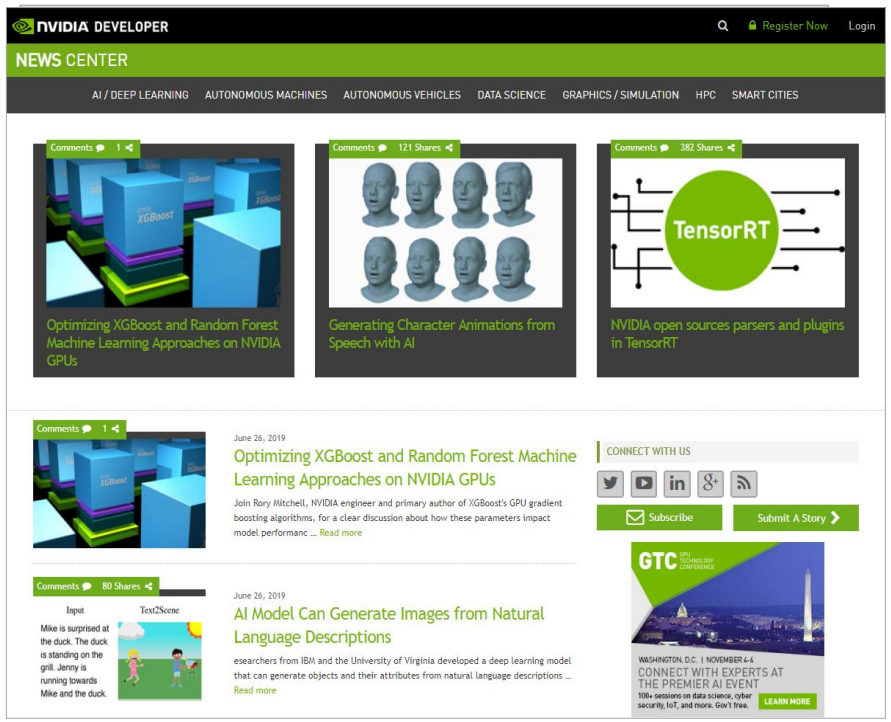
Game Development

Deep Learning Fundamentals

More industry-specific training coming soon…

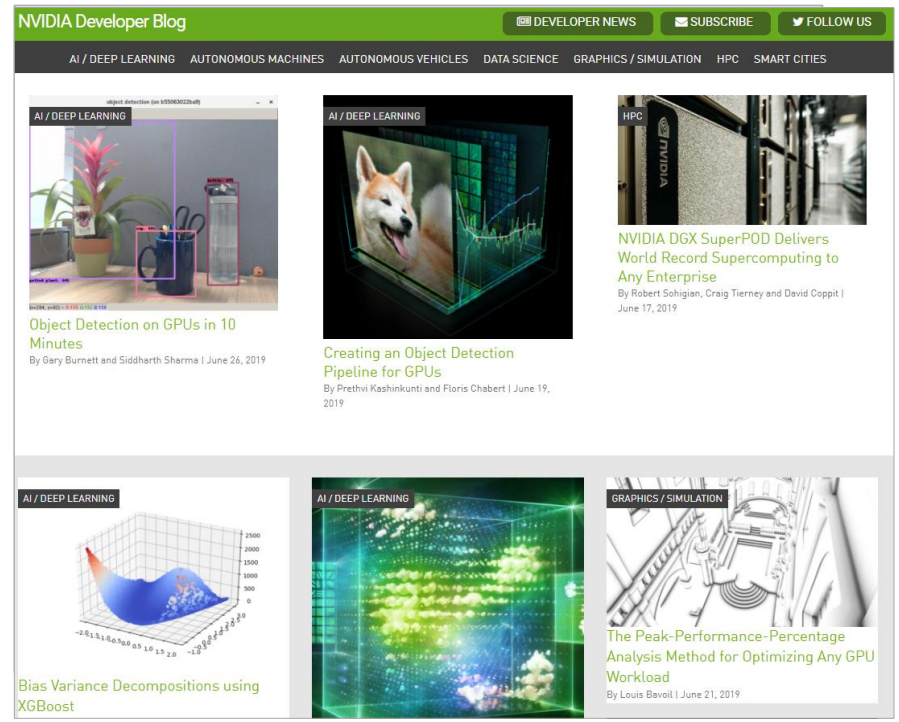
DEVELOPER NEWS AND BLOGS

news.developer.nvidia.com



Developer-Centric News and Announcements

devblogs.nvidia.com



Deeply Technical How-to Information

JOIN 1.3M DEVELOPERS CREATING THE FUTURE

developer.nvidia.com/join


NVIDIA