



# NVIDIA cuDNN

Support Matrix | NVIDIA Docs

# Table of Contents

Chapter 1. GPU, CUDA Toolkit, and CUDA Driver Requirements.....	1
Chapter 2. CPU Architecture and OS Requirements.....	3
2.1. Linux.....	3
2.2. Windows.....	4

# Chapter 1. GPU, CUDA Toolkit, and CUDA Driver Requirements

The following sections highlight the compatibility of NVIDIA® cuDNN versions with the various supported NVIDIA CUDA® Toolkit, CUDA driver, and NVIDIA hardware versions.

Table 1. GPU, CUDA Toolkit, and CUDA Driver Requirements

cuDNN Package <sup>1</sup>	CUDA Toolkit Version	Supports static linking? <sup>2</sup>	NVIDIA Driver Version		CUDA Compute Capability	Supported NVIDIA Hardware
			Linux	Windows		
cuDNN 8.9.2 for CUDA 12.x	12.1	Yes	>=525.60.13	>=527.41	9.0 <sup>3</sup>	NVIDIA Hopper™ <sup>5</sup>
	12.0	No			8.9 <sup>4</sup>	
cuDNN 8.9.2 for CUDA 11.x	11.8	Yes	>=450.80.02	>=452.39	8.6	NVIDIA Ada Lovelace architecture <sup>6</sup>
	11.7	No			8.0	
	11.6				7.5	NVIDIA Ampere architecture
	11.5				7.0	
	11.4				6.1	
	11.3				6.0	NVIDIA Turing™
	11.2 <sup>7</sup>				5.0	NVIDIA Volta™
	11.1 <sup>8</sup>					NVIDIA Pascal™
11.0 <sup>9</sup>						

<sup>5</sup> Requires CUDA Toolkit >= 11.8.

<sup>3</sup> Requires CUDA Toolkit >= 11.8.

<sup>4</sup> Requires CUDA Toolkit >= 11.8.

<sup>6</sup> Requires CUDA Toolkit >= 11.8.

<sup>7</sup> Functionalities that perform runtime compilation such as the runtime fusion engines, and the persistent dynamic algorithm of RNN, requires NVRTC from CUDA Toolkit 11.2 update 1 or later.

<sup>8</sup> Functionalities that perform runtime compilation such as the runtime fusion engines, and the persistent dynamic algorithm of RNN, requires NVRTC from CUDA Toolkit 11.2 update 1 or later.

<sup>9</sup> Functionalities that perform runtime compilation such as the runtime fusion engines, and the persistent dynamic algorithm of RNN, requires NVRTC from CUDA Toolkit 11.2 update 1 or later.

cuDNN Package <sup>1</sup>	<a href="#">CUDA Toolkit Version</a>	Supports static linking? <sup>2</sup>	NVIDIA Driver Version		<a href="#">CUDA Compute Capability</a>	Supported NVIDIA Hardware
			Linux	Windows		
						NVIDIA Maxwell®



Note: For best performance, the recommended configuration is cuDNN 8.9.2 on H100 with CUDA 12.0, and cuDNN 8.9.2 on all other GPUs with CUDA 11.8, because this is the configuration that was used for tuning heuristics.

---

# Chapter 2. CPU Architecture and OS Requirements

The following tables highlight the compatibility of cuDNN versions with the various supported OS versions.

For the requirements of previously released versions of cuDNN documentation, refer to the [NVIDIA cuDNN Archives](#).

## 2.1. Linux

Refer to the following table to view the list of supported Linux versions for cuDNN.

Table 2. Linux Versions for cuDNN

Architecture	OS Name	OS Version	Distro Information		
			Kernel	GCC	Glibc
x86_64	RHEL	9.x	5.14.0	8.5.0	2.34
		8.x	4.18.0	8.5.0	2.28
		7.x	3.10.0	4.8.5	2.19
	Rocky	8.6	4.18	8.5.0	2.28
	Ubuntu	22.04	5.15.0	11.2.0	2.35
		20.04	5.15.0	9.4.0	2.31
		18.04	4.15.0	8.2.0	2.27
Debian	11.4	5.10	10.2.1	2.31	
ppc64le	RHEL	8.x	4.18	8.5.0	2.28
AArch64 incorporates ARM® based CPU cores for Server Base System Architecture (SBSA).	RHEL	8.x	4.18	8.5.0	2.28
	Ubuntu	22.04	5.15.0	11.2.0	2.35
		20.04	5.13.0	9.3.0	2.31

## 2.2. Windows

Windows 10 and Windows Server 2019 and 2016 are supported. Refer to the following table to view the list of supported Visual Studio versions for cuDNN.

Table 3. Visual Studio Versions Based on Your Version of CUDA

	<b>CUDA 12.x - 11.8</b>	<b>CUDA 11.7 - 11.0</b>
Visual Studio	2019	2017

## Notice

This document is provided for information purposes only and shall not be regarded as a warranty of a certain functionality, condition, or quality of a product. NVIDIA Corporation ("NVIDIA") makes no representations or warranties, expressed or implied, as to the accuracy or completeness of the information contained in this document and assumes no responsibility for any errors contained herein. NVIDIA shall have no liability for the consequences or use of such information or for any infringement of patents or other rights of third parties that may result from its use. This document is not a commitment to develop, release, or deliver any Material (defined below), code, or functionality.

NVIDIA reserves the right to make corrections, modifications, enhancements, improvements, and any other changes to this document, at any time without notice.

Customer should obtain the latest relevant information before placing orders and should verify that such information is current and complete.

NVIDIA products are sold subject to the NVIDIA standard terms and conditions of sale supplied at the time of order acknowledgement, unless otherwise agreed in an individual sales agreement signed by authorized representatives of NVIDIA and customer ("Terms of Sale"). NVIDIA hereby expressly objects to applying any customer general terms and conditions with regards to the purchase of the NVIDIA product referenced in this document. No contractual obligations are formed either directly or indirectly by this document.

NVIDIA products are not designed, authorized, or warranted to be suitable for use in medical, military, aircraft, space, or life support equipment, nor in applications where failure or malfunction of the NVIDIA product can reasonably be expected to result in personal injury, death, or property or environmental damage. NVIDIA accepts no liability for inclusion and/or use of NVIDIA products in such equipment or applications and therefore such inclusion and/or use is at customer's own risk.

NVIDIA makes no representation or warranty that products based on this document will be suitable for any specified use. Testing of all parameters of each product is not necessarily performed by NVIDIA. It is customer's sole responsibility to evaluate and determine the applicability of any information contained in this document, ensure the product is suitable and fit for the application planned by customer, and perform the necessary testing for the application in order to avoid a default of the application or the product. Weaknesses in customer's product designs may affect the quality and reliability of the NVIDIA product and may result in additional or different conditions and/or requirements beyond those contained in this document. NVIDIA accepts no liability related to any default, damage, costs, or problem which may be based on or attributable to: (i) the use of the NVIDIA product in any manner that is contrary to this document or (ii) customer product designs.

No license, either expressed or implied, is granted under any NVIDIA patent right, copyright, or other NVIDIA intellectual property right under this document. Information published by NVIDIA regarding third-party products or services does not constitute a license from NVIDIA to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property rights of the third party, or a license from NVIDIA under the patents or other intellectual property rights of NVIDIA.

Reproduction of information in this document is permissible only if approved in advance by NVIDIA in writing, reproduced without alteration and in full compliance with all applicable export laws and regulations, and accompanied by all associated conditions, limitations, and notices.

THIS DOCUMENT AND ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS, AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT TO THE MATERIALS, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT NOT PROHIBITED BY LAW, IN NO EVENT WILL NVIDIA BE LIABLE FOR ANY DAMAGES, INCLUDING WITHOUT LIMITATION ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES, HOWEVER CAUSED AND REGARDLESS OF THE THEORY OF LIABILITY, ARISING OUT OF ANY USE OF THIS DOCUMENT, EVEN IF NVIDIA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Notwithstanding any damages that customer might incur for any reason whatsoever, NVIDIA's aggregate and cumulative liability towards customer for the products described herein shall be limited in accordance with the Terms of Sale for the product.

## Arm

Arm, AMBA and Arm Powered are registered trademarks of Arm Limited. Cortex, MPCore and Mali are trademarks of Arm Limited. "Arm" is used to represent Arm Holdings plc; its operating company Arm Limited; and the regional subsidiaries Arm Inc.; Arm KK; Arm Korea Limited.; Arm Taiwan Limited; Arm France SAS; Arm Consulting (Shanghai) Co. Ltd.; Arm Germany GmbH; Arm Embedded Technologies Pvt. Ltd.; Arm Norway, AS and Arm Sweden AB.

## HDMI

HDMI, the HDMI logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

## BlackBerry/QNX

Copyright © 2020 BlackBerry Limited. All rights reserved.

Trademarks, including but not limited to BLACKBERRY, EMBLEM Design, QNX, AVIAGE, MOMENTICS, NEUTRINO and QNX CAR are the trademarks or registered trademarks of BlackBerry Limited, used under license, and the exclusive rights to such trademarks are expressly reserved.

## Google

Android, Android TV, Google Play and the Google Play logo are trademarks of Google, Inc.

## Trademarks

NVIDIA, the NVIDIA logo, and BlueField, CUDA, DALI, DRIVE, Hopper, JetPack, Jetson AGX Xavier, Jetson Nano, Maxwell, NGC, Nsight, Orin, Pascal, Quadro, Tegra, TensorRT, Triton, Turing and Volta are trademarks and/or registered trademarks of NVIDIA Corporation in the United States and other countries. Other company and product names may be trademarks of the respective companies with which they are associated.

## Copyright

© 2014-2024 NVIDIA Corporation & affiliates. All rights reserved.

