

Use of GPU in DF Scanner

(As of July 3, 2025)

In DF Scanner's tree species identification, high-speed processing is possible by using a graphics board equipped with an NVIDIA GPU that supports CUDA 12.8. CUDA 12.8 is available on GPUs with Compute Capability 5.0 or higher^{*1*2*3}.

Compute Capability	Architecture	Year	GPU
12.0	Blackwell	2024	GeForce RTX (5000 series): 5090 / 5080 / 5070 Ti / 5070 / 5060 Ti / 5060 NVIDIA RTX PRO (Blackwell): RTX PRO 6000 Workstation Edition / RTX PRO 6000 Max-Q Workstation Edition / RTX PRO 5000 / RTX PRO 4500 / RTX PRO 4000
8.9	Ada Lovelace	2022	GeForce RTX (4000 series): 4090 / 4080 / 4070 Ti / 4070 / 4060 Ti / 4060 / 4050 NVIDIA RTX (Ada): RTX 6000 / RTX 5000 / RTX 4500 / RTX 4000 / RTX 4000 SFF / RTX 2000
8.6	Ampere	2020	GeForce RTX (3000 series): 3090 Ti / 3090 / 3080 Ti / 3080 / 3070 Ti / 3070 / 3060 Ti / 3060 / 3050 Ti / 3050 NVIDIA RTX (Ampere): RTX A6000 / RTX A5000 / RTX A4000 / RTX A3000 / RTX A2000
7.5	Turing	2018	GeForce: RTX 2080 Ti / RTX 2080 / RTX 2070 / RTX 2060 / GTX 1650 Ti TITAN: NVIDIA TITAN RTX NVIDIA T series: T2000 / T1200 / T1000 / T600 / T500 / T400 QUADRO RTX: RTX 8000 / RTX 6000 / RTX 5000 / RTX 4000 / RTX 3000
7.0	Volta ^{*1}	2017	Quadro GV100 NVIDIA TITAN V
6.1	Pascal ^{*1}	2016	Quadro P series: P6000 / P5200 / P5000 / P4200 / P4000 / P3200 / P3000 / P2200 / P2000 / P1000 / P620 / P600 / P500 P series: P620 / P520 GeForce: GTX 1080 Ti / GTX 1080 / GTX 1070 Ti / GTX 1070 / GTX 1060 / GTX 1050 TITAN: NVIDIA TITAN Xp / NVIDIA TITAN X
6.0	Pascal ^{*1}	2016	Quadro GP100
5.2	Maxwell (2nd gen.) ^{*1}	2014	Quadro M series: M6000 24GB / M6000 / M5000 / M4000 / M2000 / M5500M / M2200 / M620 GeForce: GTX TITAN X / GTX 980 Ti / GTX 980 / GTX 970 / GTX 960 / GTX 950 / GTX 980M / GTX 970M / GTX 965M / 910M
5.0	Maxwell (1st gen.) ^{*1}	2014	Quadro K / M series: K2200 / K1200 / K620 / M1200 / M520 / M5000M / M4000M / M3000M / M2000M / M1000M / K620M / M600M / M500M GeForce: GTX 750 Ti / GTX 750 / GTX 960M / GTX 950M / 940M / 930M / GTX 850M / 840M / 830M Others: NVIDIA NVS 810

*1 GPUs based on architectures prior to Turing (e.g., Volta, Pascal, Maxwell; Compute Capability below 7.5) are not recommended.

*2 Please ensure that the latest GPU driver (version 572.61 or later) is installed.

*3 Operation has been confirmed with GeForce RTX 3000–5000 series GPUs; however, please note that we have not tested all GPU models.

Reference: [NVIDIA DEVELOPER: CUDA GPU Compute Capability](#)
[NVIDIA DEVELOPER: Legacy CUDA GPU Compute Capability](#)
[NVIDIA cuDNN Backend: Support Matrix](#)
[CUDA 12.8 Update 1 Release Notes](#)