gpu-unlock: A Linux Add-On That Lifts the Half-Speed AI Limit on NVIDIA GeForce Cards

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gpu-unlock is a Linux add-on for people who run or train AI models at home on NVIDIA GeForce gaming cards. It removes NVIDIA's half-speed limit on one kind of AI maths. Tensor cores, the chip parts built for AI's huge multiplications, multiply 16-bit numbers (FP16 or BF16) and add up the results in a more precise 32-bit format. TechSpot reports that GeForce cards do this at half speed, while the workstation RTX A6000 does it at full speed. It lifts the

limit at start-up, before NVIDIA's driver loads. The author's test calculation ran 80% faster on an RTX 3090 Ti, and the French site Next measured up to 1.89 times the speed in raw tests on an RTX 3070 Ti.

In real jobs the README reports prompt processing (the model reading your input before it answers) 25% to 55% faster, fine-tuning (extra training on your own data) 25% to 50% faster, and image generation 30% to 55% faster. TweakTown reported 14% to 36% for prompt processing. Token generation (writing the answer) stays the same because memory speed limits it. Games and 8-bit or 4-bit models see no change, and compressed models run through llama.cpp gain 0% to 15%. NVIDIA had not commented when PC Games Hardware reported on October 25, and no reply, warranty answer or driver change has turned up since. It rates RTX 30 cards stable; unsupported setups may fail to boot, and the README warns against unofficial Windows installers.

Read More: Soup, a tool that fine-tunes an 8B model on a 4 GB laptop graphics card and Microsoft's Surface PCs with NVIDIA chips built to run AI models on your own desk

Sources:

- gpu-unlock README (GitHub)
- TechSpot: Modders unlock hidden AI power on Nvidia RTX 20, 30, and 40 series GPUs
- TweakTown: Modders unlock NVIDIA GeForce RTX 20, 30 and 40 series compute limits
- Next: GPU Unlock on a GeForce RTX 3070 Ti (in French)
- PC Games Hardware: Linux unlock for GeForce RTX 20, 30 and 40 (in German)

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