

Benchmarks

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|------------|-----------|------------------------|--------------------------|------------------------|------------------------|-----------------------|-----------------------|----------|--|
| Total | | ↓3.1 | ↑1.5 | ↑2.1 | ↑4.2 | ↑4.9 | ↑9.2 | | |
| Benchmarks | 2mm | ↑1.1 | ↓2.7 ⁽¹⁸⁾ | ↑1.1 | ↓1.1 ⁽²⁰⁾ | ↓1.3 ⁽¹¹⁰⁾ | ↓2.1 | 14.66 ms | |
| | 3mm | ↓1.2 | ↑1.0 ⁽⁵⁾ | ↓1.2 | ↑1.1 ⁽¹⁾ | ↑1.0 ⁽²⁾ | ↓2.8 | 18.30 ms | |
| | adi | ↓17.3 ⁽¹²⁾ | ↓1.3 ⁽¹⁵⁸⁾ | ↓1.2 ⁽¹⁰⁾ | ↑23.1 ⁽⁵⁾ | ↑22.2 ⁽¹⁶⁾ | | 17.27 ms | |
| | adist | ↑14.4 ⁽²⁾ | ↓1.0 ⁽¹²⁷⁾ | ↑24.4 ⁽²⁷⁾ | ↑5.3 ⁽¹²⁾ | ↑1.4 ⁽²³⁾ | ↑24.5 ⁽⁶⁾ | 5.75 ms | |
| | atax | ↑17.1 ⁽¹⁾ | ↑1.1 ⁽¹⁹⁾ | ↑15.4 ⁽²⁾ | ↓1.2 ⁽²⁵⁾ | ↑1.2 ⁽²¹⁾ | ↑5.8 | 15.28 ms | |
| | azimhist | ↑8.4 ⁽⁹⁾ | ↓48.0 ⁽³⁹⁾ | ↑19.0 ⁽⁴⁾ | ↑1.0 ⁽²⁾ | ↓1.3 ⁽³⁾ | ↑19.3 ⁽¹⁴⁾ | 5.70 ms | |
| | azimnaiv | ↓1.2 ⁽¹⁵⁾ | ↑2.3 ⁽¹³⁾ | ↑5.7 | ↑4.7 ⁽²⁹⁾ | ↓4.2 ⁽¹³⁾ | | 0.26 s | |
| | bicg | ↑15.3 | ↓1.0 ⁽¹⁾ | ↑14.1 | ↓1.0 ⁽¹⁾ | ↓1.0 ⁽¹⁾ | ↑15.6 | 13.48 ms | |
| | cavtflow | ↓7.0 | ↑3.1 ⁽⁴⁰⁴⁷⁸⁹⁾ | ↑2.7 | ↑1.5 | ↑1.3 ⁽²⁷⁾ | | 9.94 ms | |
| | chanflow | ↓11.4 ⁽²⁾ | ↑1.6 ⁽⁶⁾ | ↑2.9 | ↑2.4 | ↑2.1 ⁽⁵⁾ | | 0.64 s | |
| | cholesky | ↓49.2 ⁽²⁾ | ↑85.6 ⁽¹⁸⁾ | ↓7.2 | ↑69.1 | ↑144.0 ⁽⁴⁾ | ↑1.3 | 9.15 ms | |
| | cholesky2 | ↑1.8 | ↓3.9 ⁽²³⁾ | ↑2.2 | ↓3.0 | | ↓6.2 ⁽²⁾ | 11.26 ms | |
| | clipping | ↑19.4 | ↑4.1 ⁽¹⁾ | ↑40.8 ⁽¹⁾ | ↑4.3 ⁽⁵⁾ | ↑3.7 ⁽¹⁾ | ↑40.2 ⁽²⁾ | 19.68 ms | |
| | coninteg | ↓2.0 | ↓188.0 ⁽¹³⁾ | | ↑5.2 ⁽⁵⁾ | | | 10.50 ms | |
| | conv2d | ↓7.7 | ↓1.1 ⁽⁷⁰⁾ | | ↑7.7 ⁽²⁾ | ↑3.7 ⁽²⁾ | | 8.63 ms | |
| | correlat | ↓3.3 | ↓7.3 ⁽⁴⁾ | ↑1.3 | ↓1.0 ⁽³⁾ | ↓10.2 | ↑3.0 | 13.36 ms | |
| | covarian | ↓4.2 ⁽⁴⁾ | ↓440.0 ⁽¹⁷⁾ | ↑1.1 | ↓1.0 ⁽³⁾ | ↓9.6 ⁽¹⁾ | ↑3.4 | 14.08 ms | |
| | covarian2 | | | | ↓1.3 ⁽⁴⁾ | | ↓1.8 | 2.34 ms | |
| | crc16 | ↓153.0 ⁽⁷⁾ | ↑98.3 ⁽²⁰⁾ | ↓1.8 | ↑545.0 ⁽¹⁾ | ↑393.0 ⁽¹⁾ | ↑28.4 ⁽⁴⁾ | 5.60 ms | |
| | deriche | ↓12.9 | ↑1.3 ⁽³⁾ | ↑2.1 ⁽¹⁾ | ↑11.9 ⁽¹⁾ | ↑16.6 ⁽⁴⁾ | | 10.43 ms | |
| | doitgen | ↑18.8 ⁽¹⁾ | ↑7.4 ⁽¹⁾ | ↑2.6 | ↑3.1 | | ↑89.3 ⁽²⁾ | 15.60 ms | |
| | durbin | ↓30.1 | ↓1.8 ⁽¹⁾ | ↓5.9 ⁽²⁾ | ↑5.8 ⁽²⁾ | ↑11.8 ⁽⁶⁾ | | 6.22 ms | |
| | fdtd_2d | ↑1.3 | ↑6.7 ⁽⁵⁾ | ↑8.0 ⁽²¹⁾ | ↓1.6 ⁽¹⁾ | ↑4.6 ⁽²⁾ | | 5.31 ms | |
| | floydwar | ↓292.0 ⁽²⁸⁾ | ↓165.0 ⁽²¹⁴⁾ | ↑6.1 | ↓1.0 ⁽²¹⁾ | ↑2.4 ⁽⁵⁵⁾ | ↑11.3 ⁽²⁹⁾ | 6.19 ms | |
| | gemm | ↑1.3 | ↓1.9 ⁽¹⁷⁾ | ↑1.3 | ↑1.1 ⁽¹⁾ | ↓1.2 ⁽⁷³⁾ | ↑12.8 ⁽⁴⁾ | 16.52 ms | |
| | gemver | ↑16.8 ⁽²⁾ | ↓7.7 ⁽³⁴⁾ | ↑16.5 ⁽²⁾ | ↓1.3 ⁽⁹³⁾ | ↓1.0 | ↑15.5 ⁽⁴⁾ | 5.62 ms | |
| | gesummv | ↑23.2 | ↓3.3 ⁽²²⁾ | ↑19.3 | ↑1.3 ⁽⁵⁴⁾ | ↓1.4 ⁽⁸⁵⁾ | ↑33.5 | 14.25 ms | |
| | gramschm | ↓33.8 ⁽¹⁾ | ↓1.2 ⁽⁸⁵⁾ | ↓5.6 ⁽¹⁾ | ↑12.4 ⁽¹⁾ | ↑15.8 ⁽¹⁾ | | 6.80 ms | |
| | hdiff | ↑16.9 ⁽³⁾ | ↑14.9 ⁽⁴⁾ | ↑50.1 ⁽²⁾ | ↑1.5 ⁽¹⁾ | ↑1.5 ⁽²⁹⁾ | | 7.93 ms | |
| | heat3d | ↓1.6 ⁽²⁾ | ↑9.1 ⁽¹⁾ | ↑44.3 ⁽⁴⁾ | ↑1.6 ⁽⁵⁾ | ↓1.8 ⁽¹⁾ | ↑26.5 ⁽²⁾ | 7.12 ms | |
| | jacobi1d | ↓7.8 ⁽⁶⁾ | ↑1.7 ⁽²⁾ | ↑3.2 ⁽¹⁾ | ↑1.7 ⁽⁹⁾ | ↑6.4 | | 10.75 ms | |
| | jacobi2d | ↓1.3 | ↑6.8 ⁽¹⁾ | ↑19.4 ⁽⁴⁸⁾ | ↓1.4 ⁽⁴⁾ | ↑3.6 | ↑1.5 ⁽¹⁾ | 6.78 ms | |
| | lenet | ↓7.3 ⁽⁵⁾ | ↑1.2 | | ↑5.7 ⁽³⁾ | ↑3.8 ⁽¹⁾ | | 7.11 ms | |
| | lu | ↓49.7 ⁽¹⁰⁾ | ↑55.3 ⁽⁵⁹⁾ | ↓5.5 ⁽¹⁾ | ↑25.6 ⁽¹⁾ | ↑68.8 | ↑1.5 ⁽⁶⁾ | 6.78 ms | |
| | ludcmp | ↓48.2 | ↑49.2 ⁽³⁾ | ↓7.3 ⁽¹⁾ | ↑26.2 ⁽¹⁾ | ↑69.9 ⁽³⁾ | | 7.02 ms | |
| | mandel1 | ↓7.9 ⁽¹⁶⁾ | ↑10.0 ⁽³⁾ | ↑5.2 ⁽¹⁾ | ↓1.0 ⁽¹⁾ | ↓1.7 ⁽²¹⁾ | ↑25.2 ⁽¹⁾ | 4.55 ms | |
| | mandel2 | ↓6.6 ⁽¹⁾ | | | ↑1.2 | | ↑23.1 ⁽²⁾ | 6.25 ms | |
| | mlp | ↑50.7 ⁽³⁾ | ↓2.2 ⁽²⁹⁾ | ↑48.0 | ↑1.5 ⁽¹⁵⁰⁾ | | ↑11.0 | 48.29 ms | |
| | mvt | ↑14.8 | ↓1.7 ⁽²¹⁾ | ↑13.8 | ↑1.0 ⁽²⁾ | ↓1.0 | ↑6.5 ⁽¹⁾ | 19.99 ms | |
| | nbody | ↓15.4 ⁽⁵⁾ | ↑2.9 ⁽⁵⁾ | | ↑7.0 ⁽³⁾ | | | 4.18 ms | |
| | npgofast | ↓7.1 | ↑1.6 | ↓1.6 | ↑1.6 ⁽¹⁾ | | ↑17.4 ⁽⁶⁾ | 5.57 ms | |
| | nussinov | ↓75.6 ⁽³⁾ | ↑116.0 ⁽¹⁵⁾ | ↓16.4 | ↑446.0 ⁽⁹⁾ | ↑996.0 | | 9.15 ms | |
| | resnet | ↓5.0 ⁽⁶⁾ | ↑3.3 ⁽²⁾ | | ↑3.7 ⁽⁸⁾ | ↑2.0 | | 8.46 ms | |
| | seidel2d | ↓53.5 ⁽⁹⁾ | ↑5.0 ⁽³⁾ | ↓15.2 | ↑111.0 ⁽³⁾ | ↑188.0 | | 11.16 ms | |
| | softmax | ↑19.2 | ↓25.3 ⁽¹⁾ | ↑20.2 ⁽¹⁾ | ↓1.0 ⁽²⁾ | ↓1.9 ⁽¹⁾ | ↑78.7 ⁽⁹⁾ | 14.15 ms | |
| | spmv | ↓58.0 ⁽⁵⁾ | ↑104.0 ⁽³⁾ | ↑12.9 ⁽⁶⁾ | ↑104.0 ⁽²⁰⁾ | ↑114.0 ⁽³⁾ | | 11.88 ms | |
| | sselfeng | ↓22.4 ⁽²⁾ | ↓1.2 | ↓7.4 | ↑10.8 ⁽⁴⁾ | ↑7.6 | | 7.82 ms | |
| | symm | ↓34.0 | ↑1.4 ⁽²⁾ | ↓4.6 ⁽²⁾ | ↑25.9 ⁽³⁾ | ↑80.8 | ↑39.8 ⁽²⁾ | 8.31 ms | |
| | syr2k | ↓16.8 ⁽⁷⁾ | ↑2.1 | ↓3.0 | ↑66.6 ⁽⁵⁾ | ↑77.3 | ↑121.0 ⁽³⁾ | 11.28 ms | |
| | syrk | ↓22.4 ⁽⁵⁾ | ↓1.2 ⁽¹⁾ | ↓2.8 ⁽¹⁾ | ↑26.6 ⁽¹⁾ | ↑99.3 ⁽²⁾ | ↑102.0 ⁽⁵⁾ | 8.61 ms | |
| | trisolv | ↓41.6 | ↑4.0 ⁽¹⁾ | ↓8.1 ⁽²⁾ | ↑4.8 ⁽³⁾ | ↑4.5 ⁽³⁾ | ↓1.0 | 4.45 ms | |
| | trmm | ↓64.5 ⁽²⁾ | ↑43.0 ⁽³⁾ | ↑24.5 | ↑13.1 ⁽¹⁾ | ↑40.0 ⁽²⁾ | ↑60.8 ⁽²⁾ | 7.35 ms | |
| | vadv | ↓4.1 ⁽⁴⁾ | ↑1.6 ⁽³⁾ | ↓10.2 ⁽¹⁹¹⁾ | ↑1.3 ⁽⁵⁾ | ↑1.8 ⁽³⁴⁾ | | 5.48 ms | |
| | | cupy | dace_cpu | dace_gpu | numba | pythran | triton | numpy | |