Optimization Report

Intel(R) Advisor can now assist with vectorization and show optimization

report messages with your source code.

See "https://software.intel.com/en-us/intel-advisor-xe" for details.

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 18.0.3.222 Build 20180410

Compiler options: -std=c99 -O2 -Wall -W -Werror -restrict -march=core-avx2 -qopt-report=5 -qopt-report-phase=vec -o mmvec

Begin optimization report for: main()

Report from: Vector optimizations [vec]

LOOP BEGIN at mm.c(110,5) inlined into mm.c(207,6)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(112,9) inlined into mm.c(207,6)

remark #15319: loop was not vectorized: novector directive used

LOOP END

LOOP END

LOOP BEGIN at mm.c(118,5) inlined into mm.c(207,6)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(120,9) inlined into mm.c(207,6)

remark #15319: loop was not vectorized: novector directive used

LOOP END

LOOP END

LOOP BEGIN at mm.c(142,5) inlined into mm.c(209,6)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(144,8) inlined into mm.c(209,6)

remark #15319: loop was not vectorized: novector directive used

LOOP END

LOOP END

LOOP BEGIN at mm.c(149,5) inlined into mm.c(209,6)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(151,8) inlined into mm.c(209,6)

remark #15319: loop was not vectorized: novector directive used

LOOP END

LOOP END

LOOP BEGIN at mm.c(189,5) inlined into mm.c(212,5)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(191,8) inlined into mm.c(212,5)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(191,8) inlined into mm.c(212,5)

remark #15319: loop was not vectorized: novector directive used

LOOP END

LOOP BEGIN at mm.c(191,8) inlined into mm.c(212,5)

<Remainder>

LOOP END

LOOP END

LOOP END

LOOP BEGIN at mm.c(53,4) inlined into mm.c(213,5)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(55,7) inlined into mm.c(213,5)

remark #15319: loop was not vectorized: novector directive used

LOOP END

LOOP BEGIN at mm.c(55,7) inlined into mm.c(213,5)

<Remainder>

LOOP END

LOOP END

LOOP BEGIN at mm.c(83,5) inlined into mm.c(213,5)

remark #15542: loop was not vectorized: inner loop was already vectorized

LOOP BEGIN at mm.c(84,8) inlined into mm.c(213,5)

remark #15542: loop was not vectorized: inner loop was already vectorized

LOOP BEGIN at mm.c(86,9) inlined into mm.c(213,5)

remark #15388: vectorization support: reference matrix\_1[m][n] has aligned access [ mm.c(87,36) ]

remark #15388: vectorization support: reference t\_matrix[l][n] has aligned access [ mm.c(87,53) ]

remark #15305: vectorization support: vector length 8

remark #15399: vectorization support: unroll factor set to 2

remark #15300: LOOP WAS VECTORIZED

remark #15448: unmasked aligned unit stride loads: 2

remark #15475: --- begin vector cost summary ---

remark #15476: scalar cost: 9

remark #15477: vector cost: 0.870

remark #15478: estimated potential speedup: 7.490

remark #15488: --- end vector cost summary ---

LOOP END

LOOP BEGIN at mm.c(86,9) inlined into mm.c(213,5)

<Remainder loop for vectorization>

remark #15388: vectorization support: reference matrix\_1[m][n] has aligned access [ mm.c(87,36) ]

remark #15388: vectorization support: reference t\_matrix[l][n] has aligned access [ mm.c(87,53) ]

remark #15305: vectorization support: vector length 8

remark #15309: vectorization support: normalized vectorization overhead 1.429

remark #15301: REMAINDER LOOP WAS VECTORIZED

LOOP END

LOOP BEGIN at mm.c(86,9) inlined into mm.c(213,5)

<Remainder loop for vectorization>

LOOP END

LOOP END

LOOP END

LOOP BEGIN at mm.c(170,5) inlined into mm.c(217,7)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(172,8) inlined into mm.c(217,7)

remark #15319: loop was not vectorized: novector directive used

LOOP END

LOOP END

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Begin optimization report for: transpose\_matrix(int, float (\*)[\*], float (\*)[\*])

Report from: Vector optimizations [vec]

LOOP BEGIN at mm.c(53,4)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(55,7)

remark #15319: loop was not vectorized: novector directive used

LOOP END

LOOP BEGIN at mm.c(55,7)

<Remainder>

LOOP END

LOOP END

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Begin optimization report for: multiply(int, float (\*\_\_restrict\_\_)[\*], float (\*\_\_restrict\_\_)[\*], float (\*\_\_restrict\_\_)[\*], struct rusage)

Report from: Vector optimizations [vec]

LOOP BEGIN at mm.c(53,4) inlined into mm.c(82,3)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(55,7) inlined into mm.c(82,3)

remark #15319: loop was not vectorized: novector directive used

LOOP END

LOOP BEGIN at mm.c(55,7) inlined into mm.c(82,3)

<Remainder>

LOOP END

LOOP END

LOOP BEGIN at mm.c(83,5)

remark #15542: loop was not vectorized: inner loop was already vectorized

LOOP BEGIN at mm.c(84,8)

remark #15542: loop was not vectorized: inner loop was already vectorized

LOOP BEGIN at mm.c(86,9)

remark #15388: vectorization support: reference matrix\_1[m][n] has aligned access [ mm.c(87,36) ]

remark #15388: vectorization support: reference t\_matrix[l][n] has aligned access [ mm.c(87,53) ]

remark #15305: vectorization support: vector length 8

remark #15399: vectorization support: unroll factor set to 2

remark #15300: LOOP WAS VECTORIZED

remark #15448: unmasked aligned unit stride loads: 2

remark #15475: --- begin vector cost summary ---

remark #15476: scalar cost: 9

remark #15477: vector cost: 0.870

remark #15478: estimated potential speedup: 7.490

remark #15488: --- end vector cost summary ---

LOOP END

LOOP BEGIN at mm.c(86,9)

<Remainder loop for vectorization>

remark #15388: vectorization support: reference matrix\_1[m][n] has aligned access [ mm.c(87,36) ]

remark #15388: vectorization support: reference t\_matrix[l][n] has aligned access [ mm.c(87,53) ]

remark #15305: vectorization support: vector length 8

remark #15309: vectorization support: normalized vectorization overhead 1.429

remark #15301: REMAINDER LOOP WAS VECTORIZED

LOOP END

LOOP BEGIN at mm.c(86,9)

<Remainder loop for vectorization>

LOOP END

LOOP END

LOOP END

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Begin optimization report for: generate\_random\_matrices(int, float (\*)[\*], float (\*)[\*])

Report from: Vector optimizations [vec]

LOOP BEGIN at mm.c(110,5)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(112,9)

remark #15319: loop was not vectorized: novector directive used

LOOP END

LOOP END

LOOP BEGIN at mm.c(118,5)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(120,9)

remark #15319: loop was not vectorized: novector directive used

LOOP END

LOOP END

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Begin optimization report for: generate\_matrices(int, float (\*)[\*], float (\*)[\*])

Report from: Vector optimizations [vec]

LOOP BEGIN at mm.c(142,5)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(144,8)

remark #15319: loop was not vectorized: novector directive used

LOOP END

LOOP END

LOOP BEGIN at mm.c(149,5)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(151,8)

remark #15319: loop was not vectorized: novector directive used

LOOP END

LOOP END

Begin optimization report for: print\_matrix\_result(int, float (\*)[\*])

Report from: Vector optimizations [vec]

LOOP BEGIN at mm.c(170,5)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(172,8)

remark #15319: loop was not vectorized: novector directive used

LOOP END

LOOP END

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Begin optimization report for: init\_matrix(int, float (\*)[\*])

Report from: Vector optimizations [vec]

LOOP BEGIN at mm.c(189,5)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(191,8)

remark #15541: outer loop was not auto-vectorized: consider using SIMD directive

LOOP BEGIN at mm.c(191,8)

remark #15319: loop was not vectorized: novector directive used

LOOP END

LOOP BEGIN at mm.c(191,8)

<Remainder>

LOOP END

LOOP END

LOOP END

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