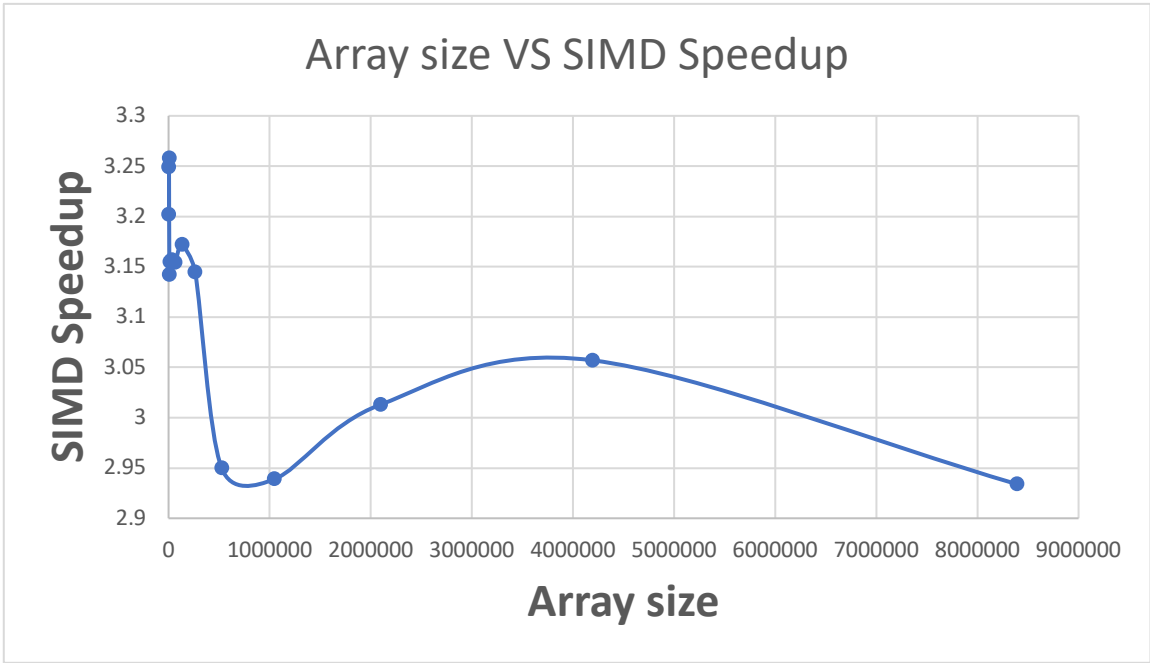


Vectorized Array Multiplication/Reduction using SSE

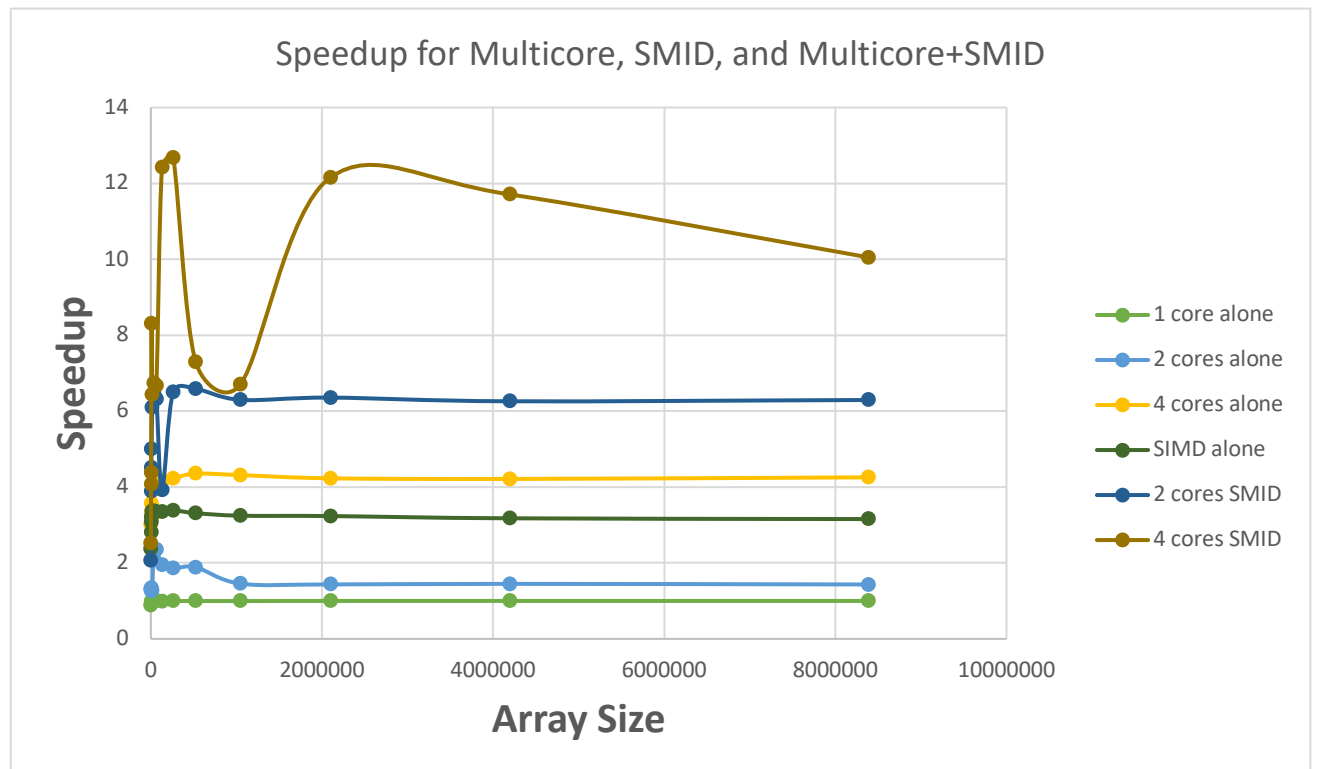
ARRAY SIZE	SIMD Speedup	SIMD Performance	Non-SIMD Performance
1024	3.202	800.227	248.786
2048	3.249	1194.148	108.613
4096	3.258	351.773	249.542
8192	3.142	373.317	334.503
16384	3.155	373.928	395.852
32768	3.157	783.581	373.755145
65536	3.154	474.298	388.548212
131072	3.172	441.324	139.124
262144	3.145	504.183	160.319
524288	2.95	597.707	202.602
1048576	2.939	751.794	255.766
2097152	3.013	1029.232	341.282
4194304	3.057	1191.098	389.673
8388608	2.934	1093.6	372.746



## CHI CHIEH WENG

ARRAYSIZE	1 core alone	2 cores alone	4 cores alone	SIMD alone	2 cores SMID	4 cores SMID
1024	0.887	1.316	3.015	2.363	2.063	2.525
2048	0.941	1.325	3.152	2.806	3.893	4.073
4096	0.967	1.348	3.344	3.074	4.506	4.383
8192	0.985	1.257	3.568	3.215	5.004	8.308
16384	0.991	1.268	3.892	3.36	6.103	6.441
32768	0.998	2.263	4.125	3.368	6.466	6.741
65536	0.997	2.348	4.138	3.349	6.32	6.669
131072	0.995	1.956	4.156	3.352	3.925	12.427
262144	0.997	1.857	4.23	3.389	6.51	12.67
524288	0.998	1.889	4.354	3.313	6.588	7.299
1048576	0.997	1.455	4.315	3.246	6.298	6.712
2097152	1	1.435	4.231	3.236	6.357	12.153
4194304	1	1.45	4.214	3.177	6.26	11.71
8388608	1	1.433	4.256	3.157	6.294	10.052

Combine multithreading and SIMD in one test



**CHI CHIEH WENG**