Main Contributions:

The author unified a scalar ARMv7 core, hard vector NEON SIMD engines as well as the FPGA-based MXP soft vector processor in the same chip in order to achieve faster computing and better performance. With this system they achieved a huge speedup compare to the other environment with the optimizer. Also, they introduced a framework with vectorizing compiler can auto-tuning. There are some really detailed results that provided detailed information comparing different benchmarks.

My Thoughts:

I think the first thing I noticed is the detailed result part, I think they compared basically all the details that anyone want to compare in this part. I think this makes the paper really persuasive and actually showed how good is this system.

Their thought of combining the ARM chip with a FPGA chip as the soft vector processor is creative. This provided an environment that can be tuned if there is a need to change the vector instruction set, which is a situation people always run into.

I think there is not a normal limitation in this paper, but I think if they can talk about what will happen when they try to enlarge this system, or how the energy and other parameter goes that would be great.

Positive Point:

The idea is creative and the result is clear.

Negative Point:

Maybe more future work.

The bottom line (1=terrible, 5=fantastic): __4____ **Grade (for professor): _____**