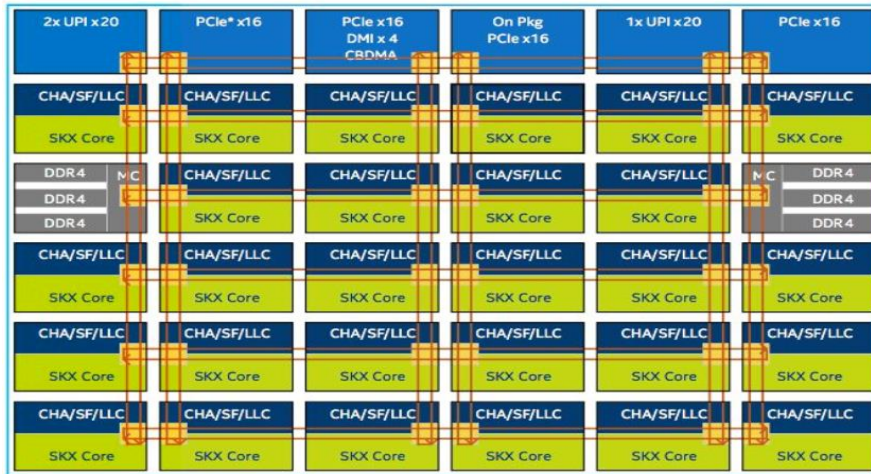


New class!

EE193: Parallel Computing, Fall 2017

For full details, see <https://www.ece.tufts.edu/ee/193STP> or e-mail joelg@eecs.tufts.edu

Skylake-SP 28-core die



CHA – Caching and Home Agent ; SF – Snoop Filter; LLC – Last Level Cache;
SKX Core – Skylake Server Core; UPI – Intel® UltraPath Interconnect

Why do CPUs have so many cores nowadays? Don't CPU designers know that using lots of cores is really hard? Why don't they just put one really, really fast core on a chip?



This is an NVidia Tesla GPU. There are 3840 cores. What the hay !?! Are they for real?

Yes, the cores are those little dots!

We'll learn about parallel computing at the hardware-software edge; what's inside parallel computers, how to program them, and how to make them run really, really fast once we understand the hardware.

We'll also use our knowledge to try and write programs that run really slow – so slow that they might clobber the memory system and crash the computer (a.k.a., a “memory virus”)

We'll talk about what's in Google's mysterious new Tensor Processing Unit – the new parallel computer that powers their servers.