

Computer Architecture and Systems Research

Electrical and Computer Engineering, Seoul National University



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Education

Electrical and Computer Engineering, [Georgia Tech](#) (PhD 2015)
Electrical and Computer Engineering, [Georgia Tech](#) (MS 2010)
Electrical Engineering, [Seoul National University](#) (BS 2007)

Professional Experience

2020.09 – Current Assistant Professor, ECE, [Seoul National University](#)
2018.04 – 2020.08 Staff Research Scientist, [Intel Labs](#)
2015.08 – 2018.03 Senior Research Scientist, [Intel Labs](#)
2013.06 – 2013.12 Research Intern, [Intel Labs](#)
2012.01 – 2012.08 Research Intern, [AMD Research](#)

Professional Services/Awards

Technical/External Program Committee in Top-Tier Computer Architecture Conferences including ISCA, MICRO, and HPCA
IEEE MICRO Top Picks (2014) – Selected as among the most significant research papers in computer architecture of the year
Best Paper Award (PACT 2015)
Intel Labs Divisional Recognition Awards (2017, 2019)

Lab Mission: Define and Lead the Next 50 Years of Computing

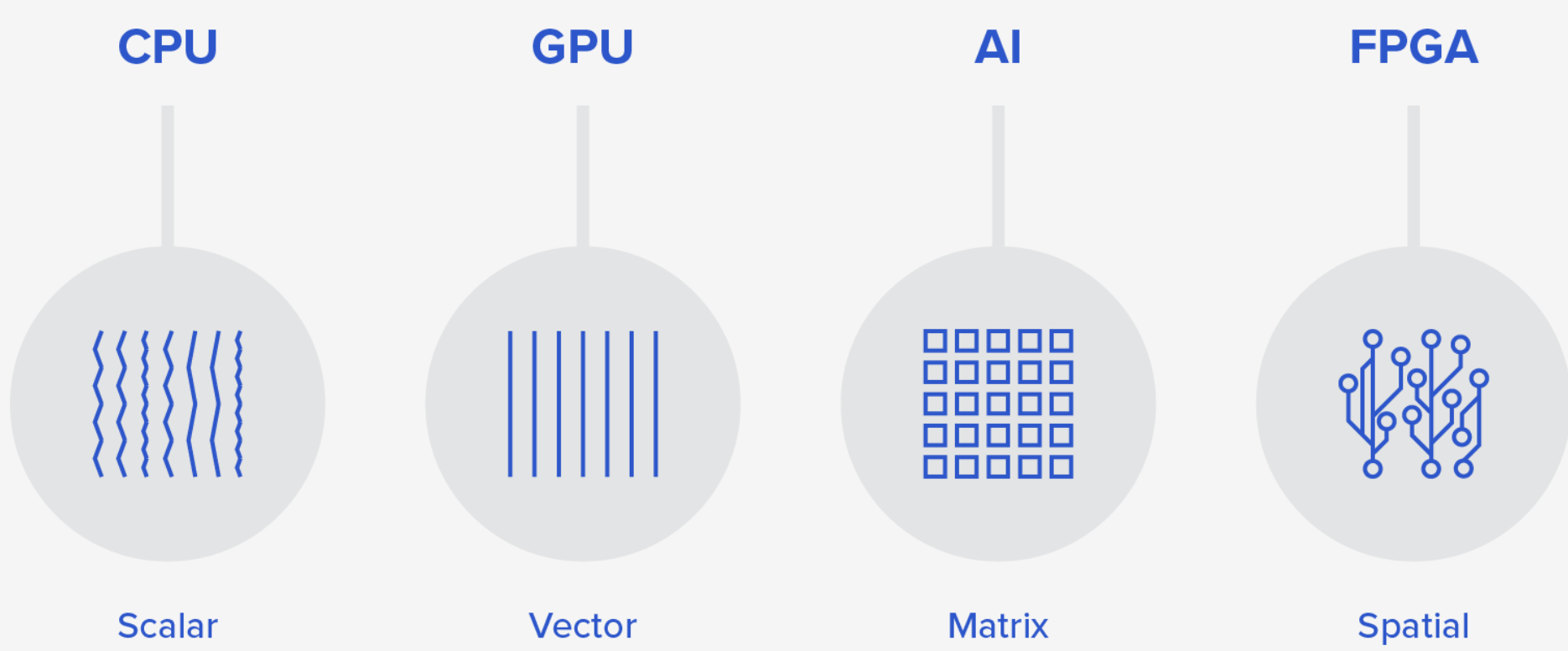
What Does Our Group Do? (The 10,000-foot-view)

We do research that spans the boundaries of computer architecture, systems, and programming languages
We do focus on **solving real, important problems** in computing systems and **making a meaningful impact**
We do publish our work in top-ranked computer architecture and systems conferences

Next-Generation Computing Architectures and Systems

Revisit the layers of the system stack and redesign them with key emerging technologies considered!

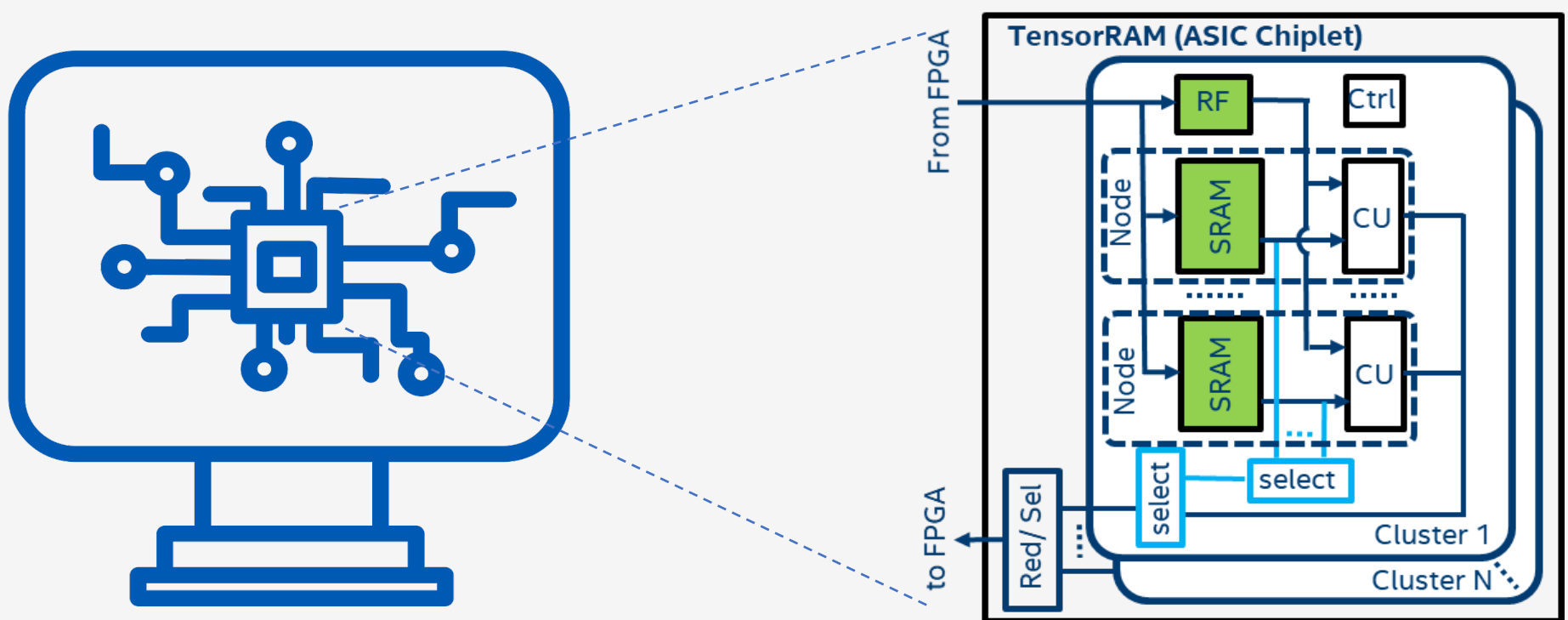
Novel microarchitectures, architectures, compilers, runtime systems, programming models



Application-Driven Specialized Accelerators and Systems

So many new interesting workloads including AI/ML! Let's do research and build energy-efficient, safe, and robust hardware/software systems for them!

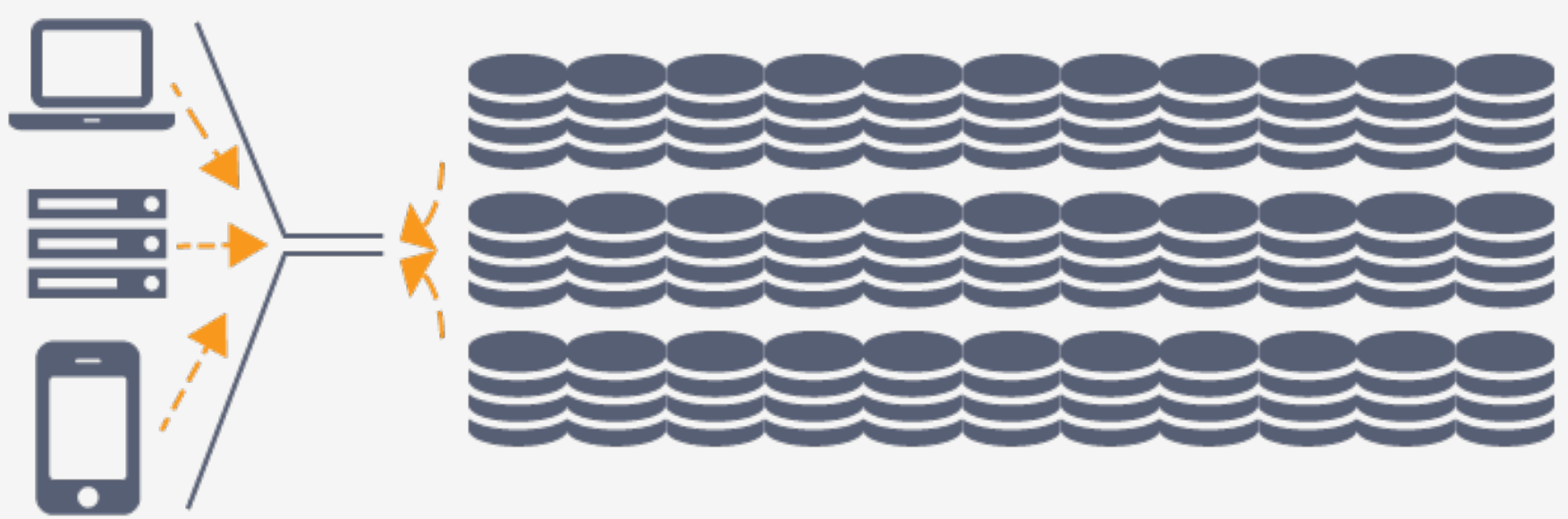
Deep Learning & Privacy-Preserving ML & Genomics & AR/VR & WebAssembly



New Compute Paradigms in the Post-Moore's Law Era

It is an exciting time for computer architects to shape new compute paradigms and design its abstraction!

Data-Centric Computing? Accelerator-Centric Computing? Visual Computing?
Neuromorphic Computing? Even Machine Programming?



Some Keywords

computers; lots of coding; building simulators & systems; LLVM or compiler hacking; x86/ARM/RISC-V ISAs; graphics; machine learning; SIMD/SIMT/GPGPU; programming languages; FPGAs/ASICs; hardware security; virtualization
Did I mention lots of coding? 😊

Join or Internship?

We are always looking for talented students who are excited about computer architecture & systems & programming
We also offer undergraduate research opportunities; if you are a SNU undergraduate student, feel free to contact me!