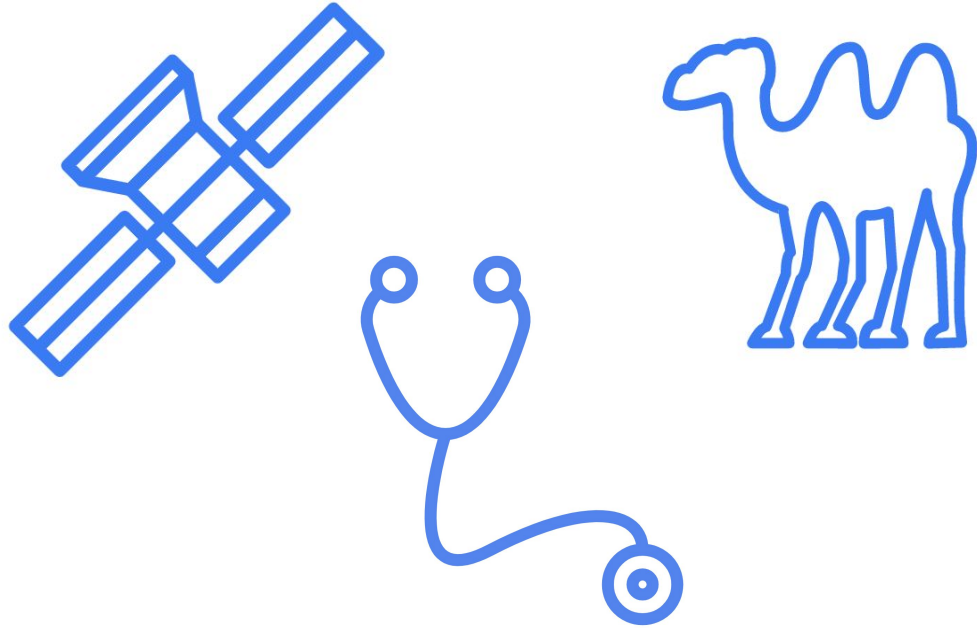

Dataflow Blocks: Modular Time-multiplexing for CGRAs

— **Carnegie Mellon University** —

Xuesi Chen, Nishanth Subramanian, karthik Ramanathan, Nathan Beckmann, Brandon Lucia

Energy-minimal Edge Processor



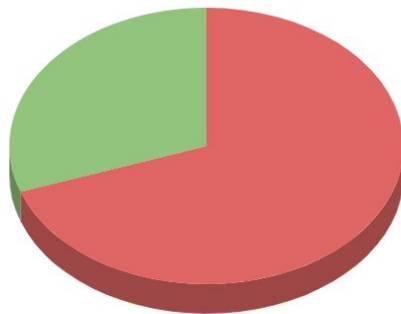
Low Energy

Diverse Applications

High Performance

Performance Per Area is Low on current CGRA-based energy-minimal processors

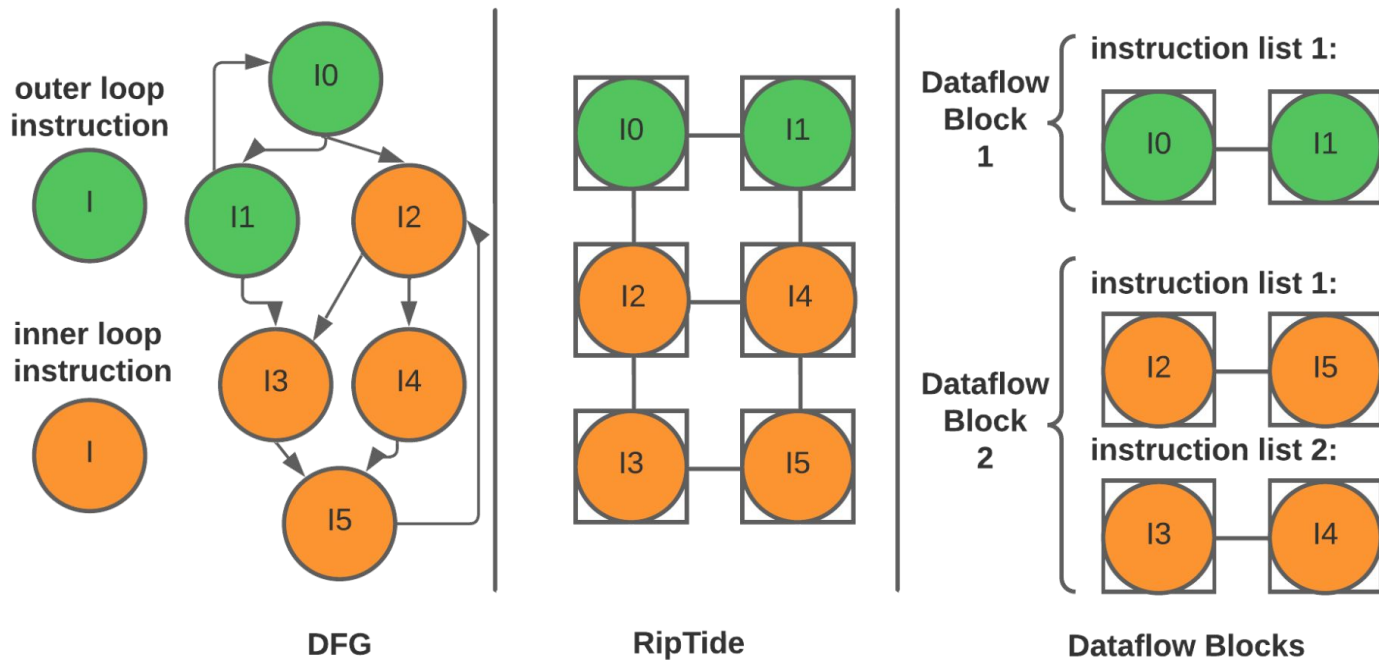
hardware resource utilization on RipTide
running dense matrix vector multiplication



● Idle ● Used

How to efficiently run diverse applications on energy-minimal edge processors?

Dataflow Blocks: Modular Time-Multiplexing



2.4x - 3.3x Performance Per Area Improvement

