

Our customers are developing Edge AI deployed on GPUs or TPUs and experience Hardware Limitations & Resource Contentions.

AI is Designed + Hardware System is Selected =  
**Performance Results are Based on Hardware**



High & Erratic  
Latency



Dropped  
Frames



High Power  
Consumption

**GigaMACS™ converts AI Models in a pipeline architecture without hardware limitations or resource contentions.**

AI is Designed + Performance Requirements are Selected =  
**Hardware is Designed to Fit the Model & Performance**



No Instruction Processing



No Shared Resources



No Memory or RAM



No Frame Grabbers

# GigaMACS™ Performance is Constant & Predictable

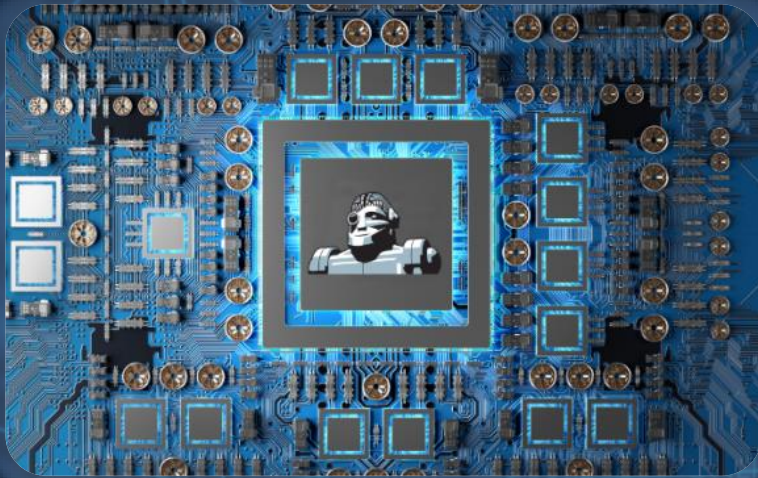
Latency in Microseconds

90% Power Savings

No Dropped Frames

HD at 240 FPS

4K at 60 FPS





The same circuit processes HD at 240 FPS or 4K at 60 FPS without any sacrifices to performance.

GigaMACS™ very low clock rate indicates a massive reduction of power consumption!

ResNet-34 Test Results	Gigantor	nVidia Jetson Series				Hardware	Clock MHz	HD 1920x1080 Images	
	GigaMACS™	Nano	TX2 series	Xavier NX	AGX Xavier			FPS	Latency msec
1200 x 1200	691 <sub>FPS</sub>	1 <sub>FPS</sub>	2 <sub>FPS</sub>	29 <sub>FPS</sub>	55 <sub>FPS</sub>	nVidia Tesla V100	1380	22 <sub>FPS</sub>	45
1920 x 1080 (HD)	240 <sub>FPS</sub>	✗	✗	✗	✗	nVidia A100	1410	28 <sub>FPS</sub>	41
3840 x 2160 (4K)	60 <sub>FPS</sub>	✗	✗	✗	✗	Xilinx VU9P w/GigaMACS™	125	240 <sub>FPS</sub>	0.35



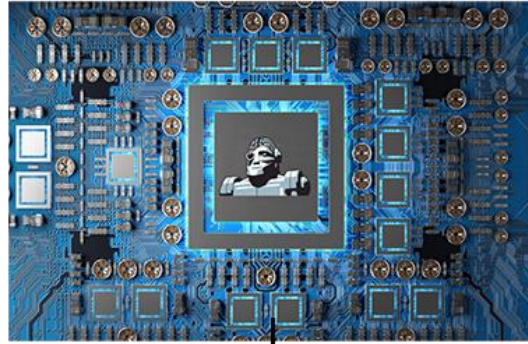
# GigaMACS™ Synthetic Scaler



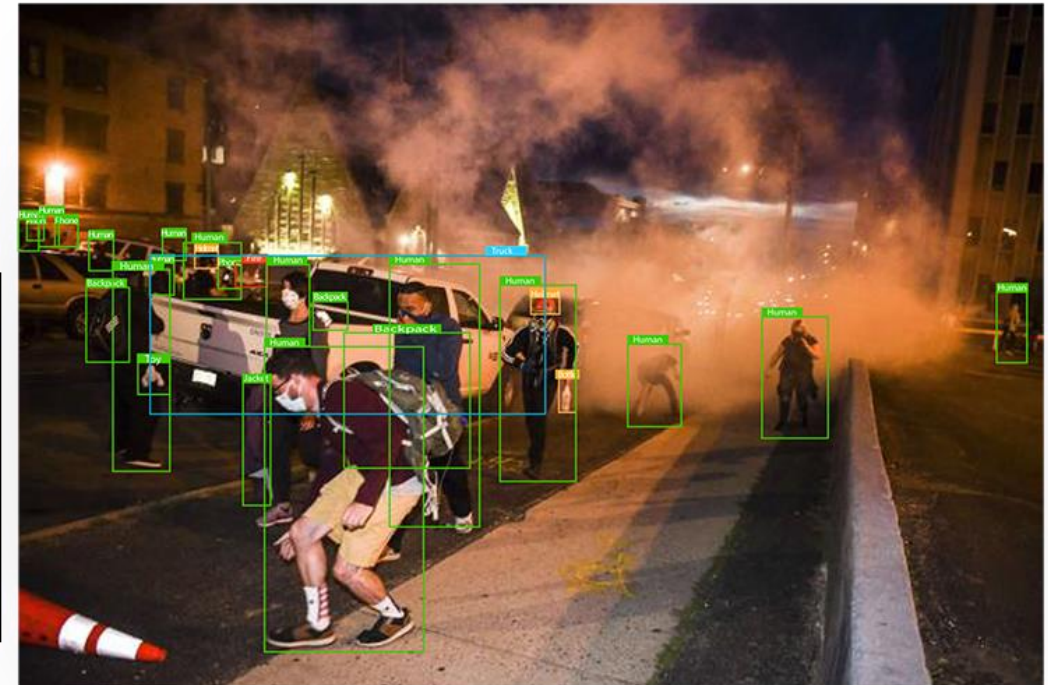
Identify Every Object at ALL Ranges

Train the model on only one size

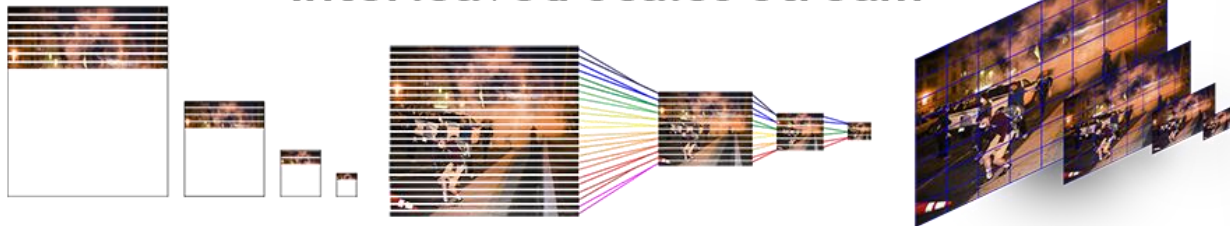
Input



Output



Interleaved Scales Stream



Accepting & Scaling

All Scales go to Same Model at Each Frame Size