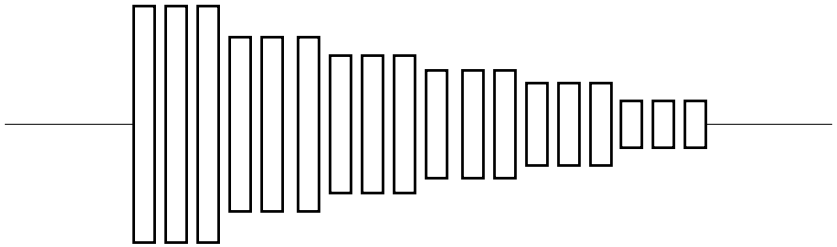
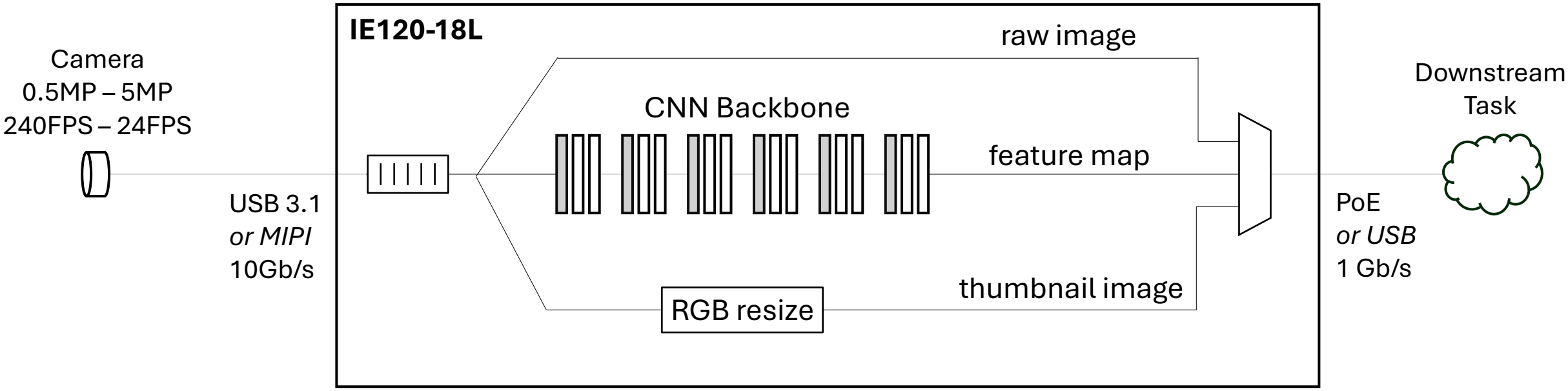
Silicon Perception



High Speed AI

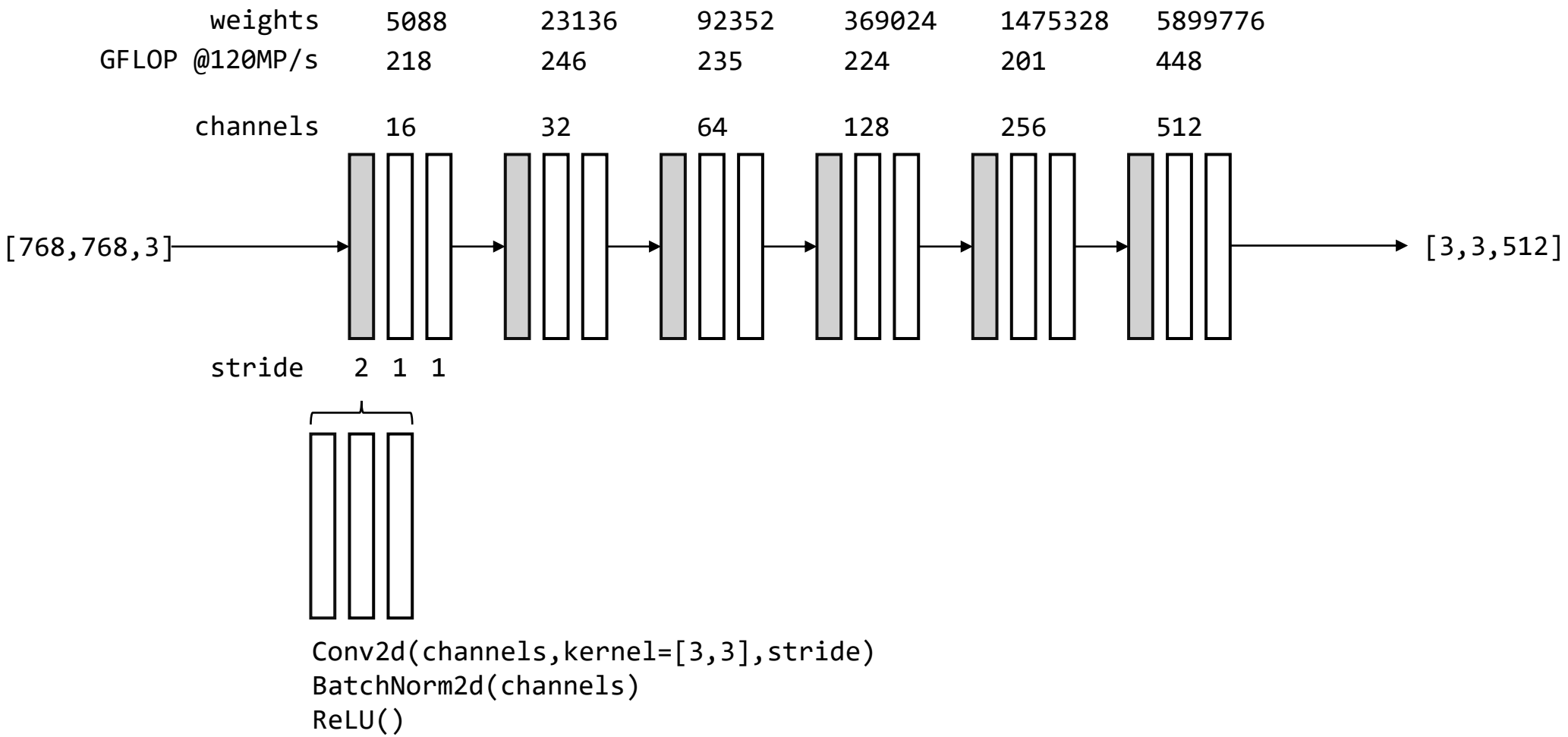
IE120-18L Single Chip Image Encoder



IE120-18L Data Sheet

Compute Fabric	Agilex 7 014, 8M weights (FP8), 1.6 TFLOP/s (FP32)
PyTorch Model	VGG-like CNN backbone, 18 layers, 7.8M weights, 1.5 TFLOP/s, source code
Input Shape	768x768 RGB image (FP32)
Output Shape	3x3x512 feature map (FP32)
Throughput	200 frames/s
Latency	150 µs + transport
Power	<10 W
Camera Interface	USB 3.1 5Gb/s, USB3 Vision Standard
Downstream Interface	PoE 12W, ARP, UDP, RTP/RTSP, HTTPS

IE120-18L PyTorch Model



IE120-18L Pretrained Weights

- Pretrained using ImageNet dataset
  - 14 scale/position combinations, 1000 classes
  - 1M batches using vanilla SGD with learning rate scheduler
- Downstream ImageNet classifier with frozen IE120-18L
  - TBD% top-1 accuracy for validation distribution
- Downstream Coco image segmentation with frozen IE120-18L
  - mAP TBD, gallery of images TBD