

DNNWEAVER v2.0: From Tensors to FPGAs

Open-Source Specialized Compute Stack for Deep Learning on FPGAs

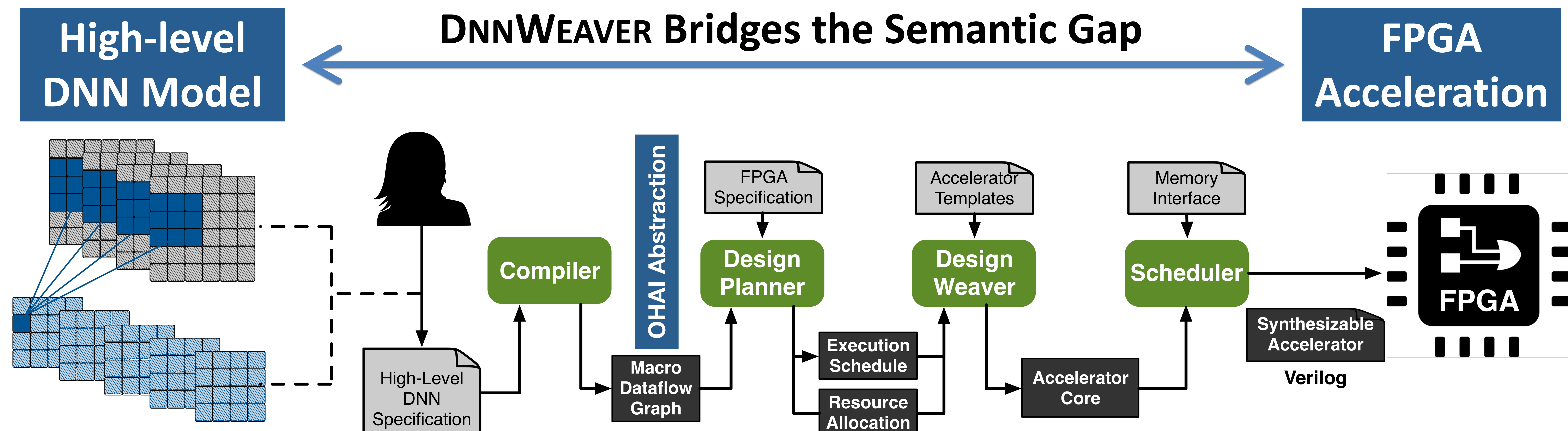
Open Hardware Acceleration Initiative (OHAI)

www.dnnweaver.org

UC San Diego

Georgia Tech

bigstream

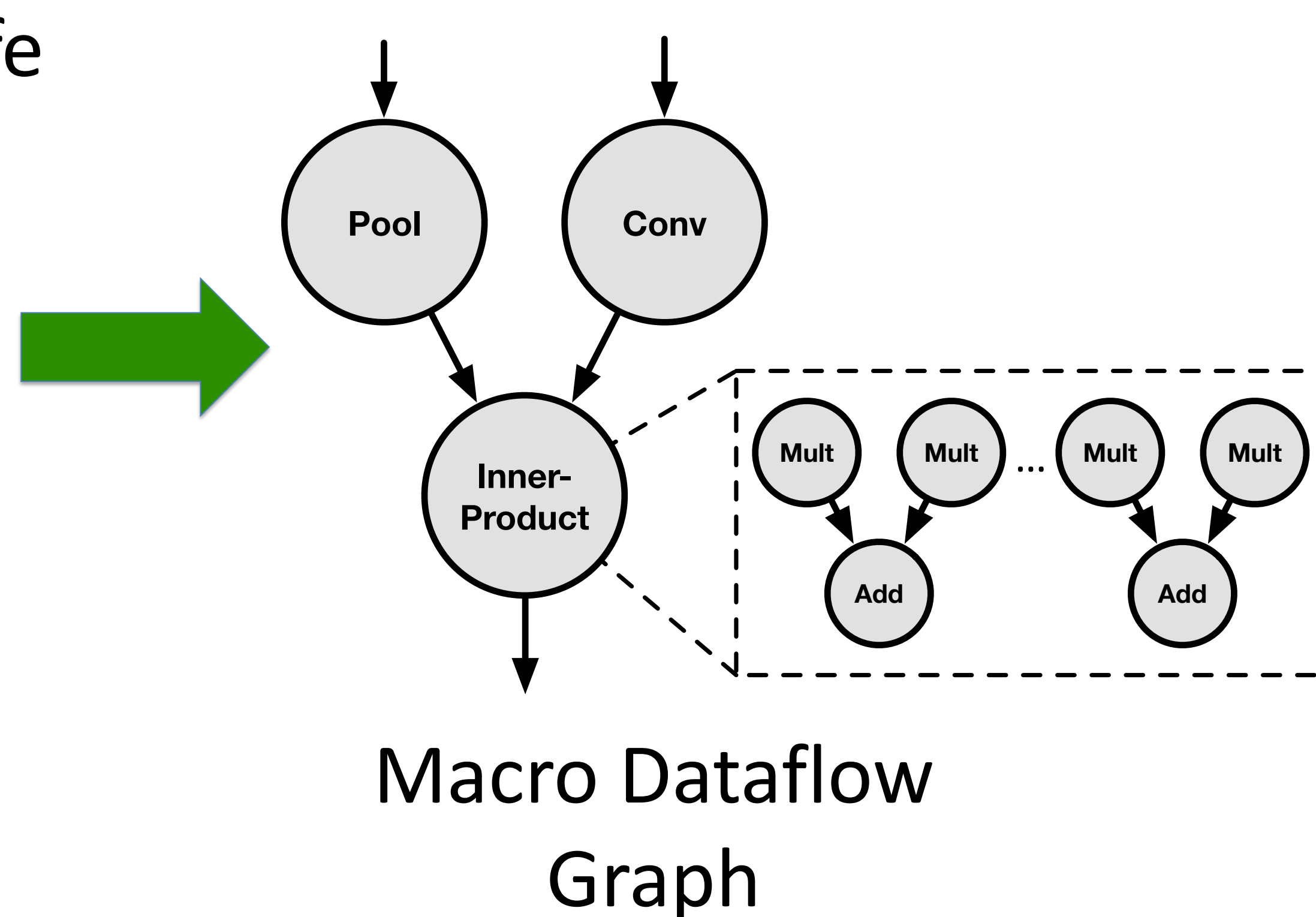


Compiler

High-level DNN specification in Caffe

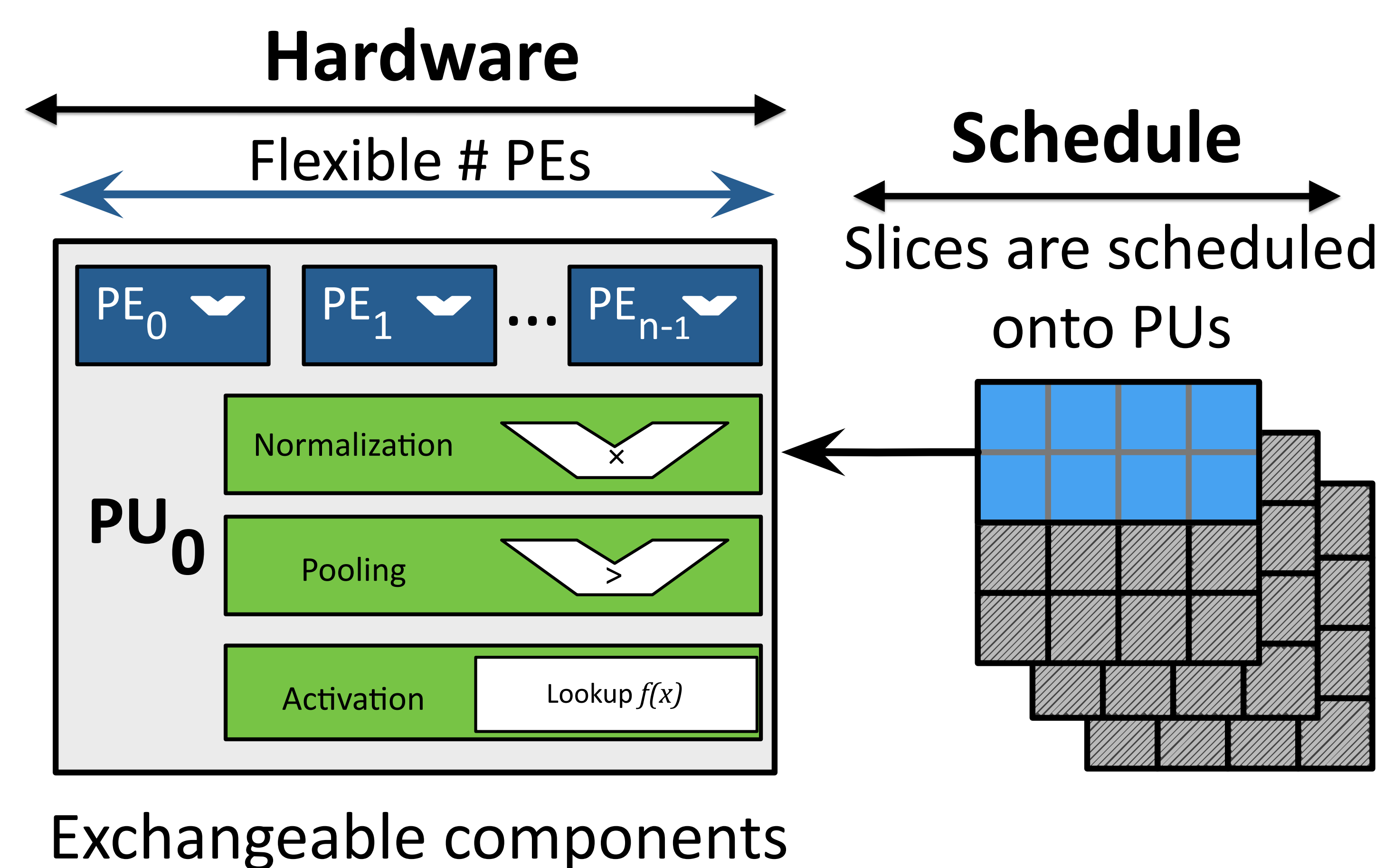
```
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  params{...}
}
layer{
  name: Conv,
  type: CONVOLUTION,
  params{...}
}
layer{
  name: Inner-Product,
  type: INNER_PRODUCT,
  params{...}
}
```

OHAI Abstraction Layer
DNNWEAVER ISA



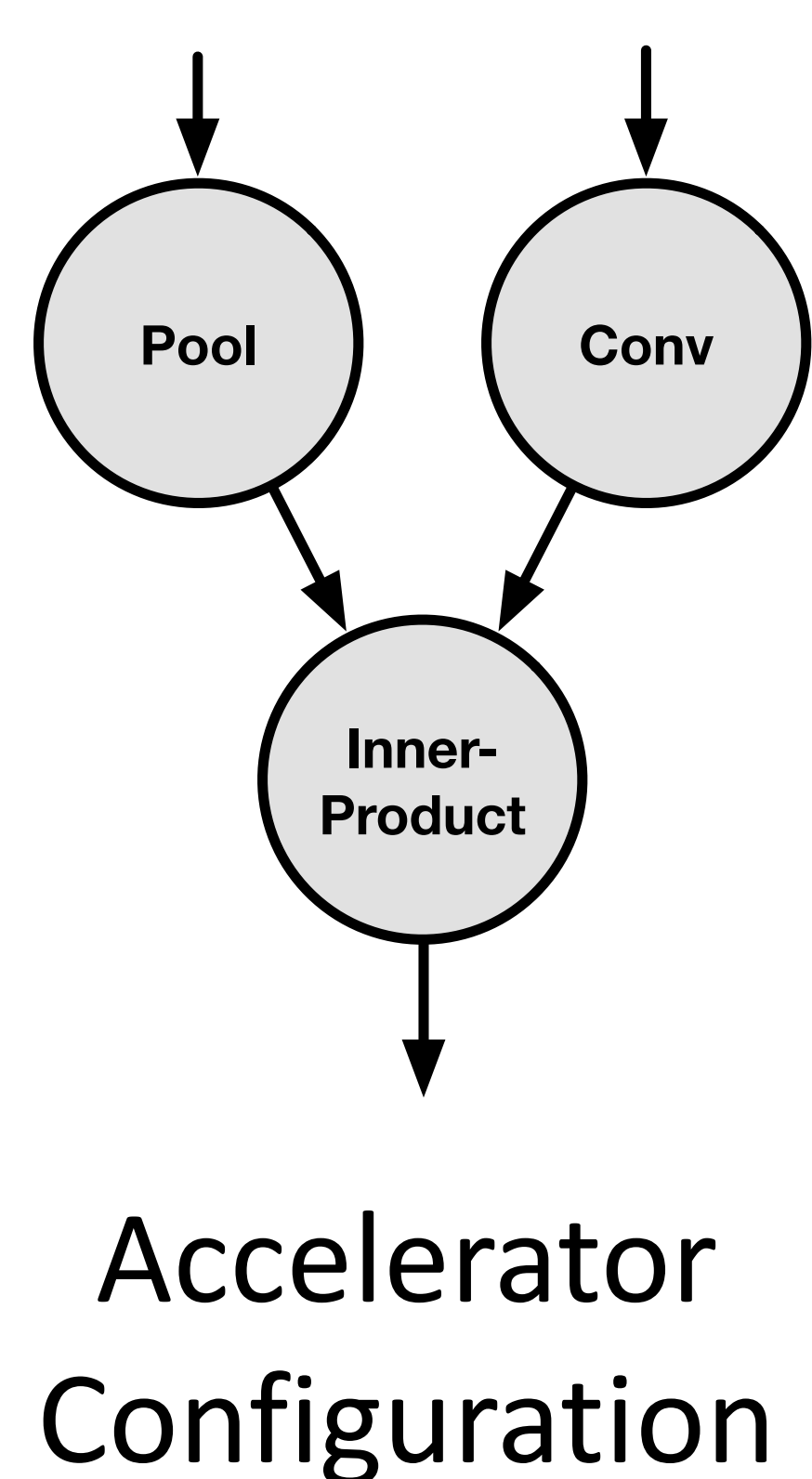
Design Planner

Co-optimize
Hardware and
Execution
Schedule



Design Weaver

State-Machines
and Micro-Codes



Scheduler

Generates
Memory
Interface

Static Data
Marshalling

