

High Level
Data Analytics DSLs

Parallel Pattern Backend

Parallel Pattern IR

a. Code Motion

b. Fusion

b. Pattern Strip Mining

c. Pattern Interchange

d. Code Motion

e. CSE

f. Pipelining Analysis

Parallel Pattern IR

Hardware Lowering

Tensor

Conv

Add

Domain-specific operators

Array

Map

Map

Parallel pattern operators

Array

Map

Fused pattern operators

Array

Slice

Map

Fused and tiled pattern patterns