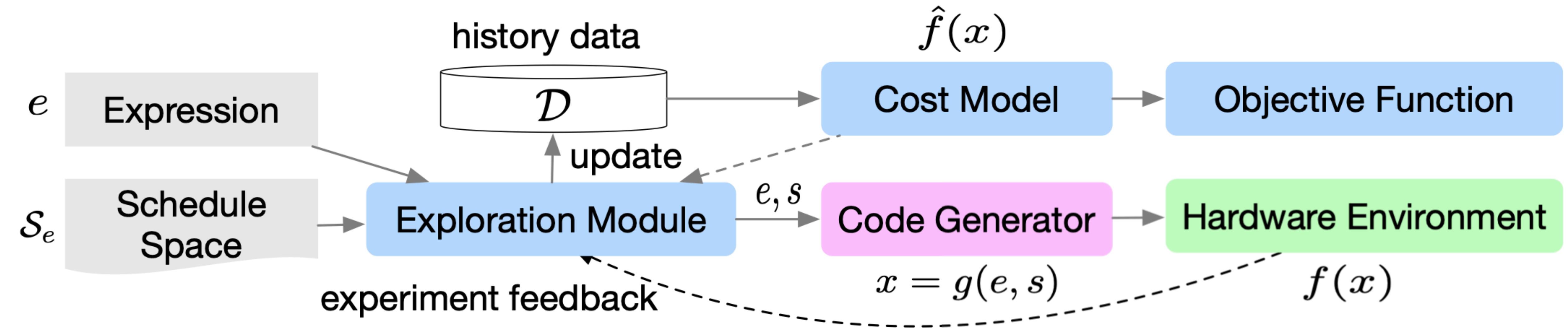


Graph Convolutional Cost Models in TVM: A Drop in the Ocean

Automatic Optimization in TVM

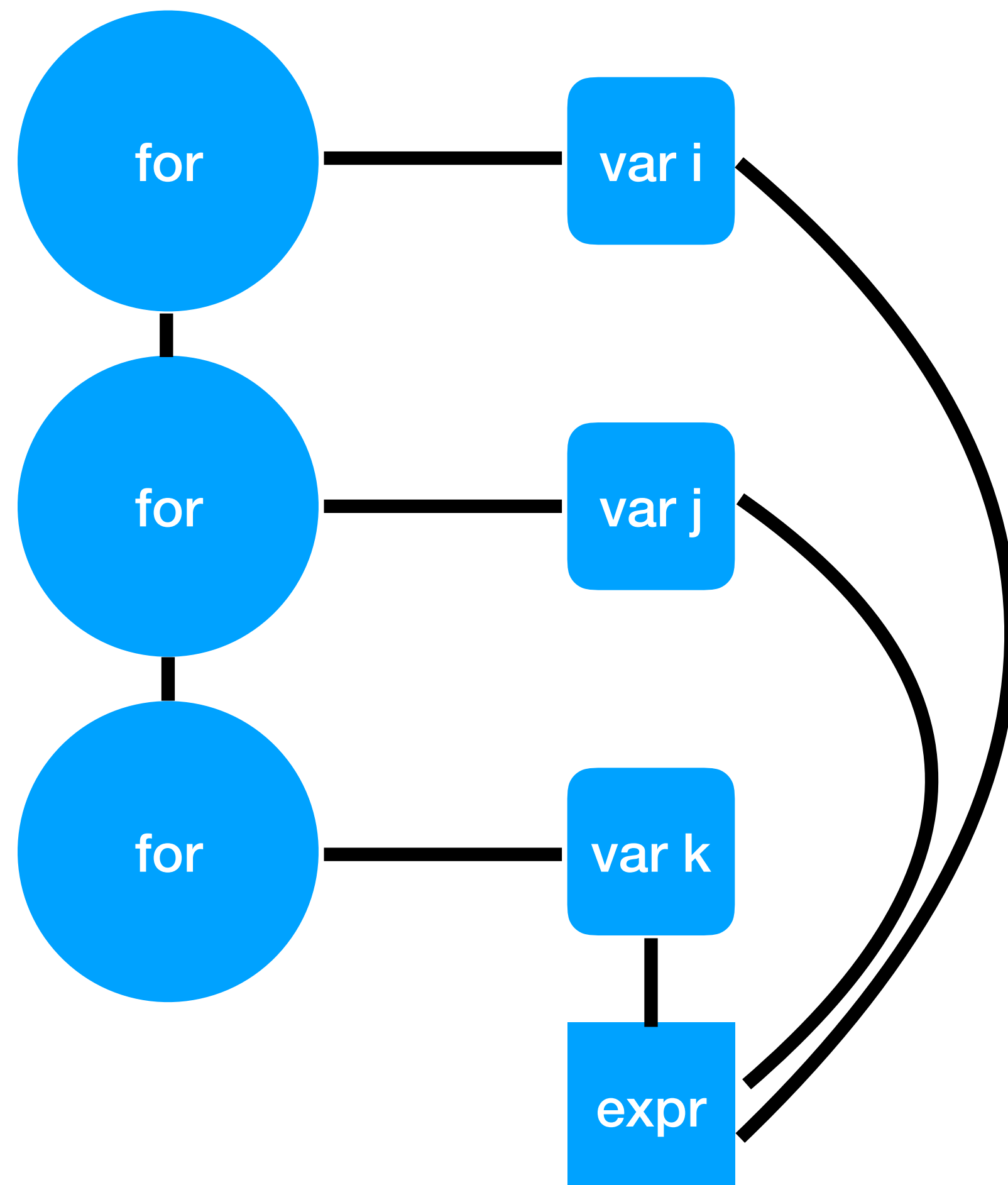


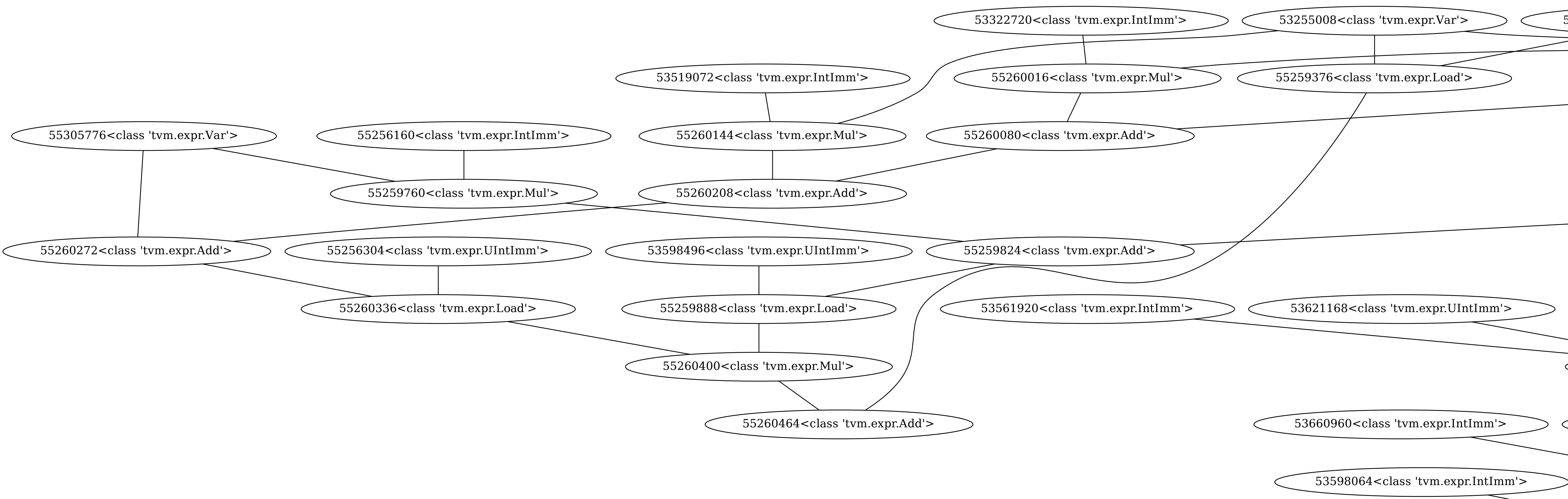
Main Limitations of Current Cost Models

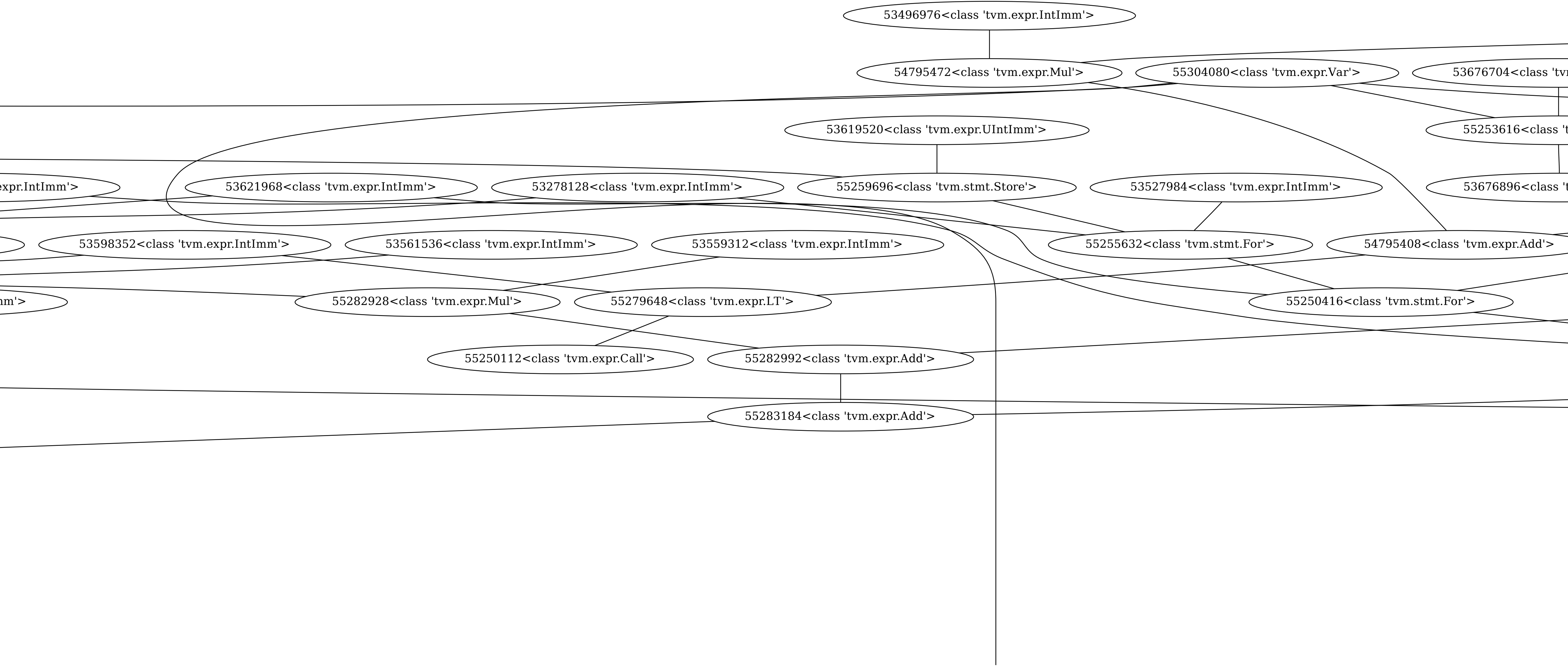
- Limited generalization between workloads (e.g., convolutions with different shapes)
- Limited generalization between different computation expressions (e.g., conv2d vs. matrix multiply)

Use a Graph Representation Directly

- TVM IR provides an AST: this AST can be lowered to a graph format







Early Results

RMSE of GCN models compared to baselines (ResNet-18 workloads)

