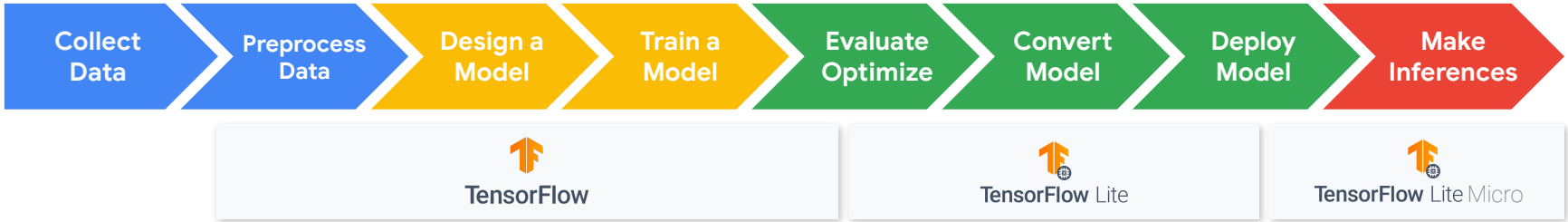
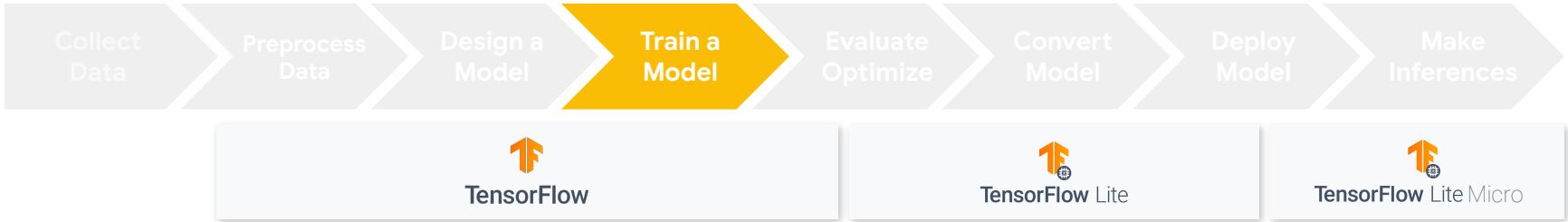
Training *VWW* in Colab

Transfer Learning


Collect Data
Preprocess Data
Design a Model
Train a Model
Evaluate Optimize
Convert Model
Deploy Model
Make Inferences
TensorFlow
TensorFlow Lite
TensorFlow Lite Micro


Collect Data
Preprocess Data
Design a Model
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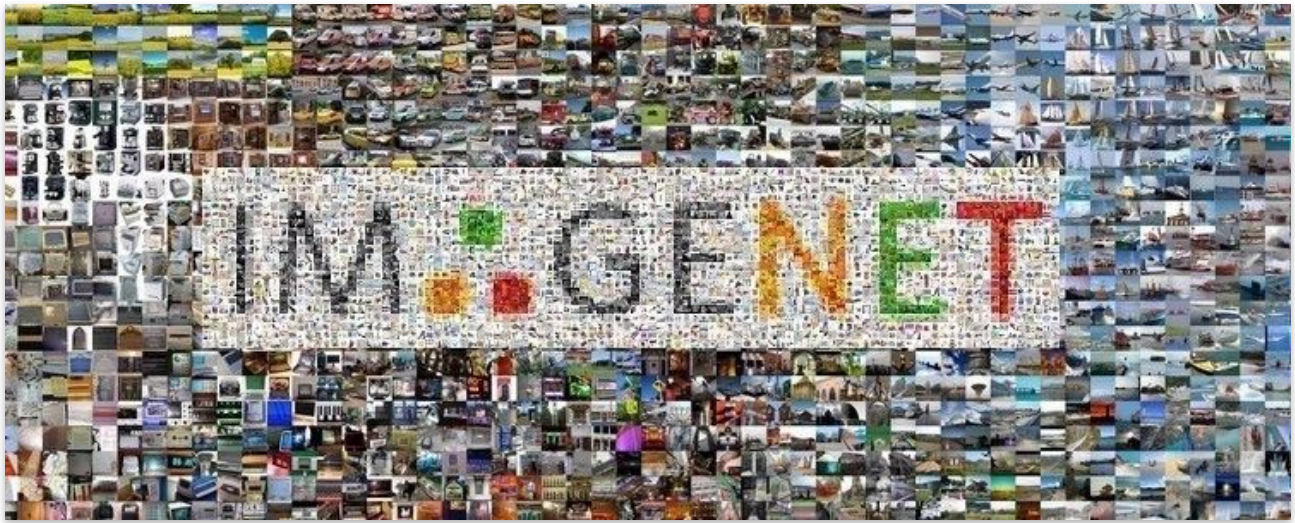
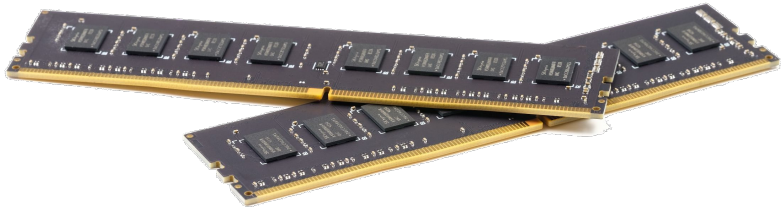
Training Pipeline: **Need Lots of Data**



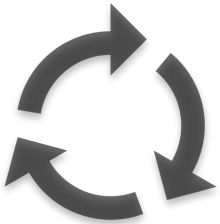
1000 Classes

1000 Images / Class

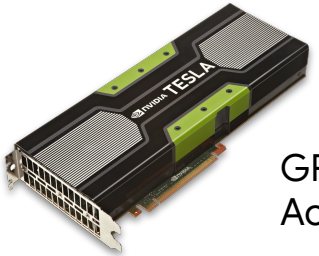
Training Pipeline: **Need Compute Resources**



Memory



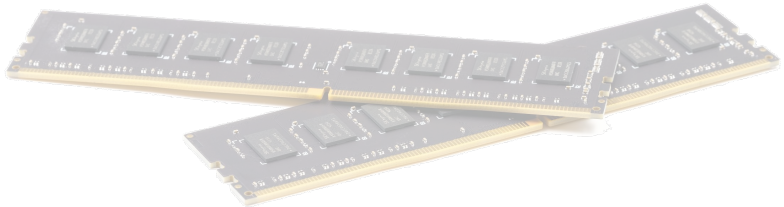
Compute



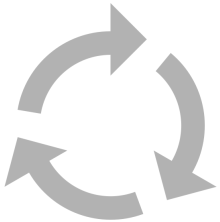
GPU and
Accelerators

Training Pipeline: **Need Compute Resources**

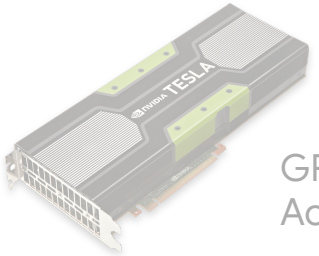
Computationally Intensive
Repeated Many Times (Epochs)



Memory

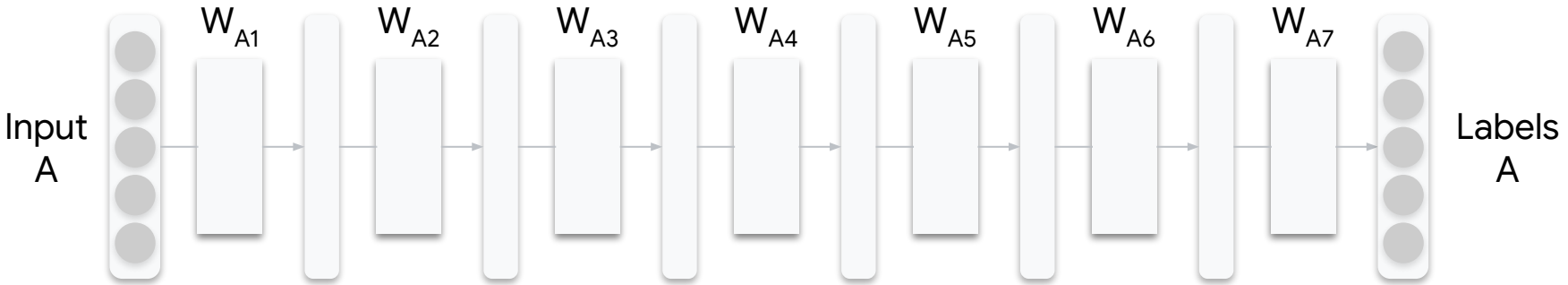


Compute

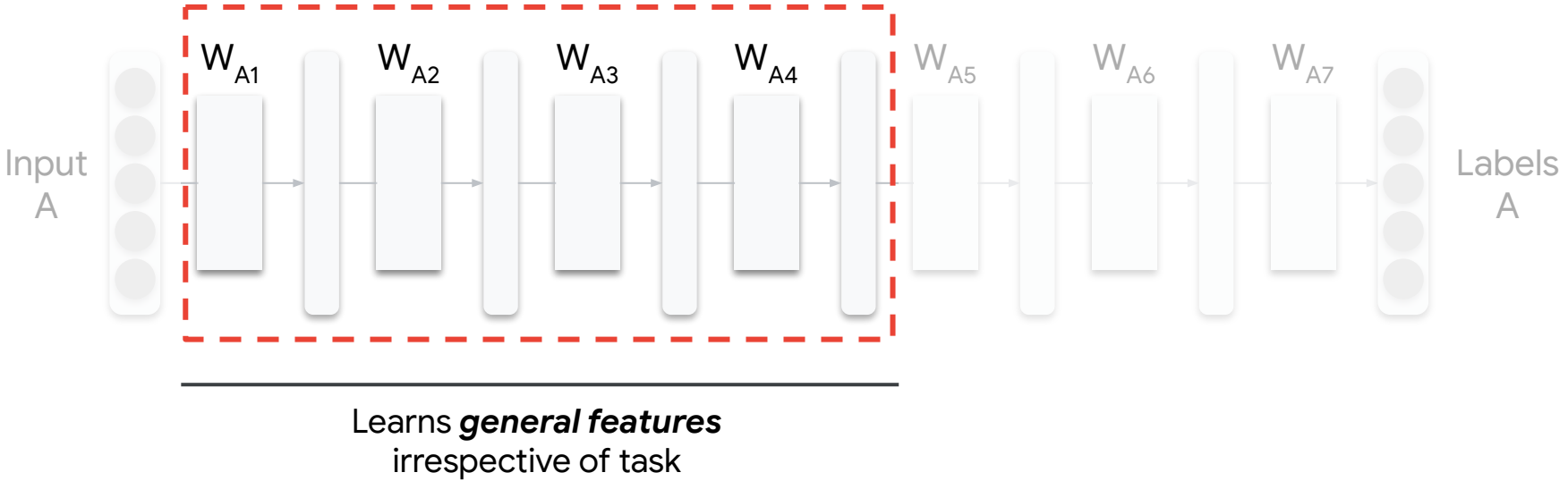


GPU and
Accelerators

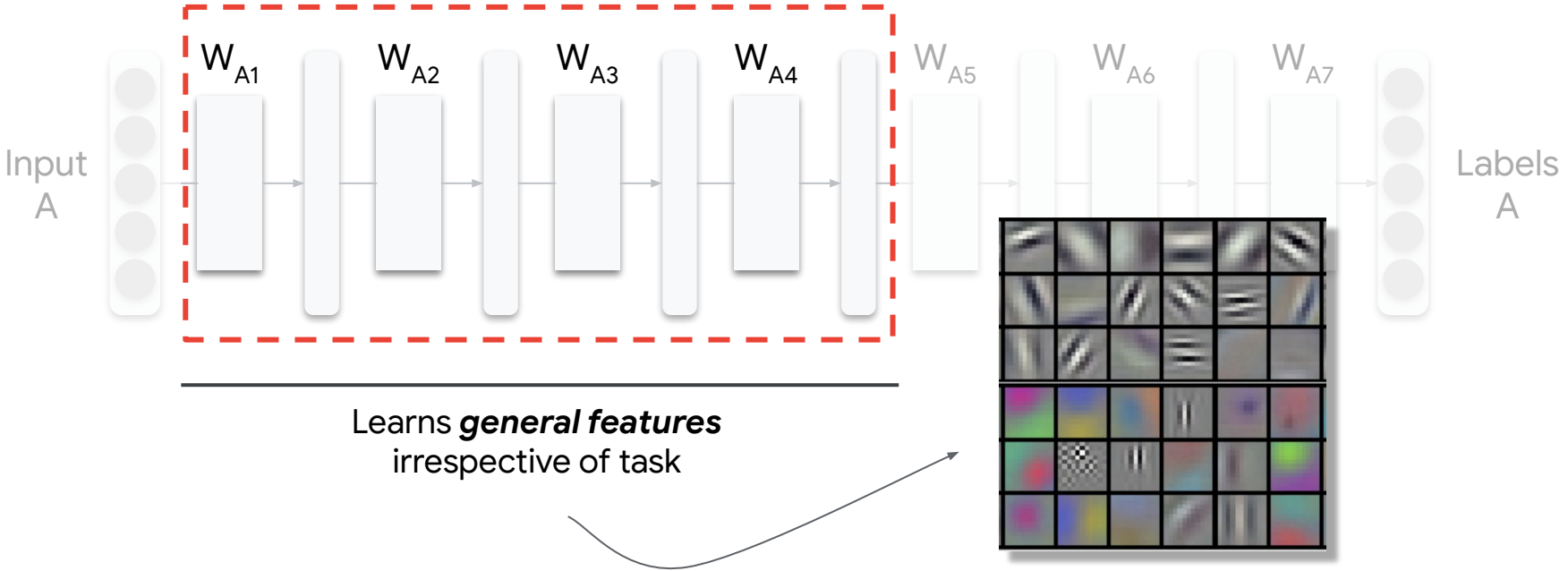
End Result of Training



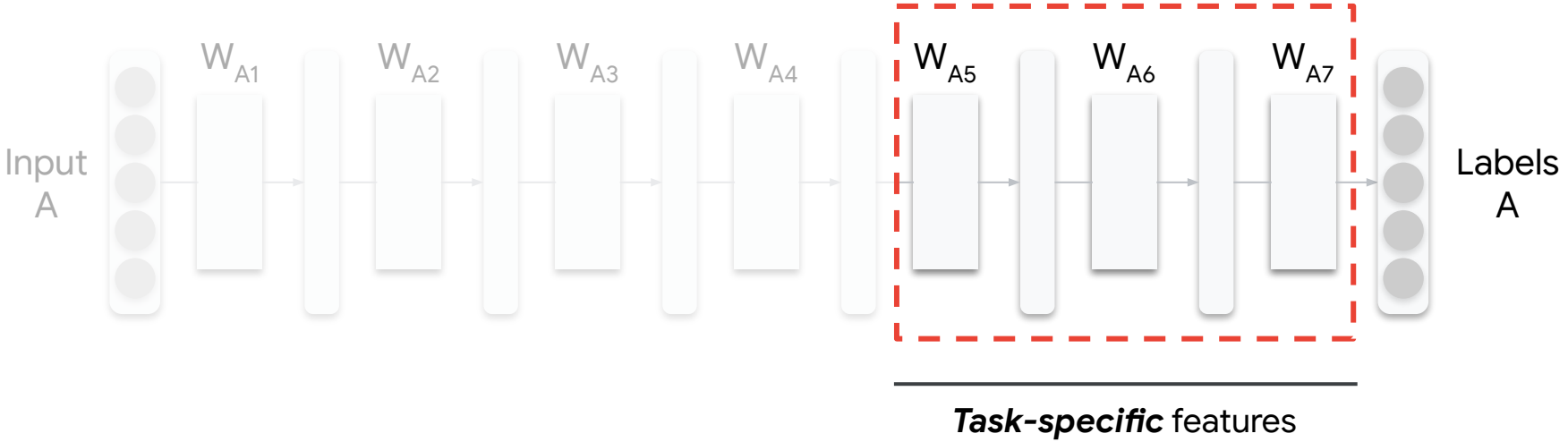
End Result of Training



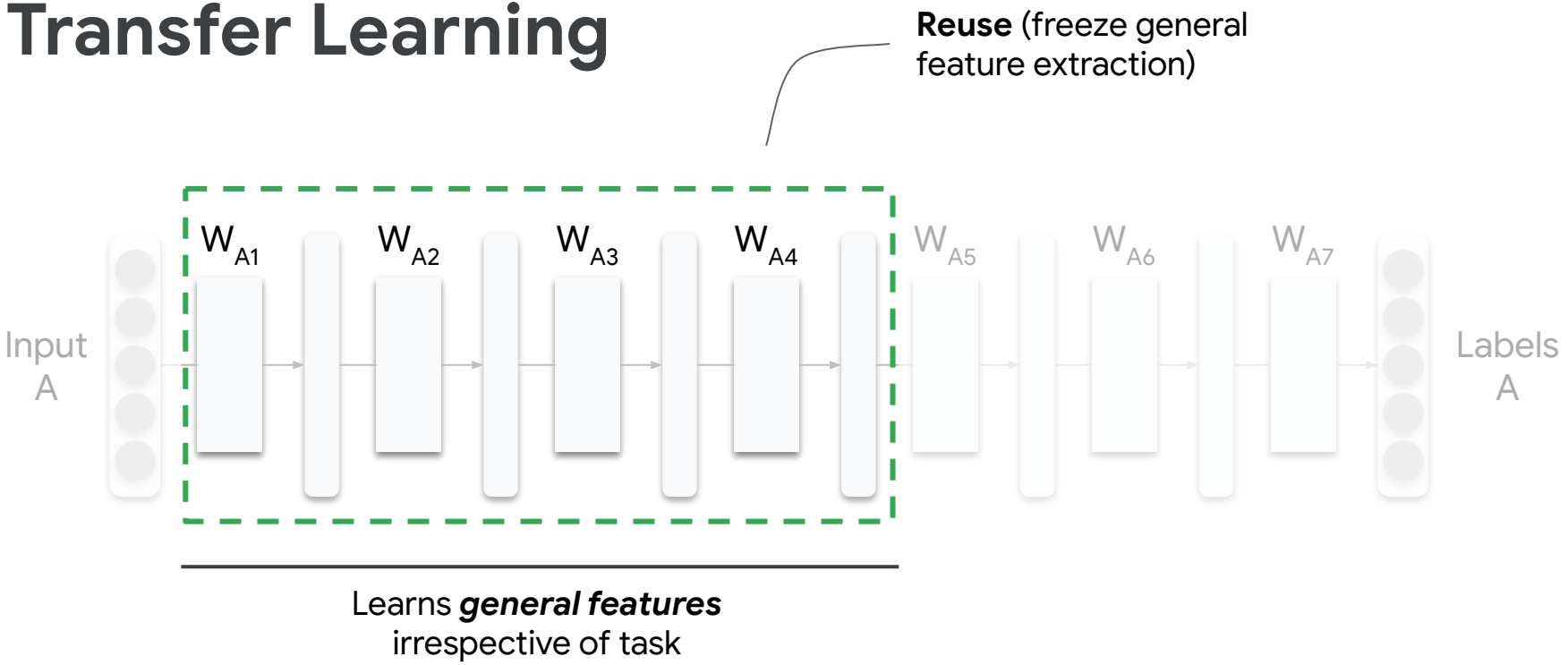
End Result of Training



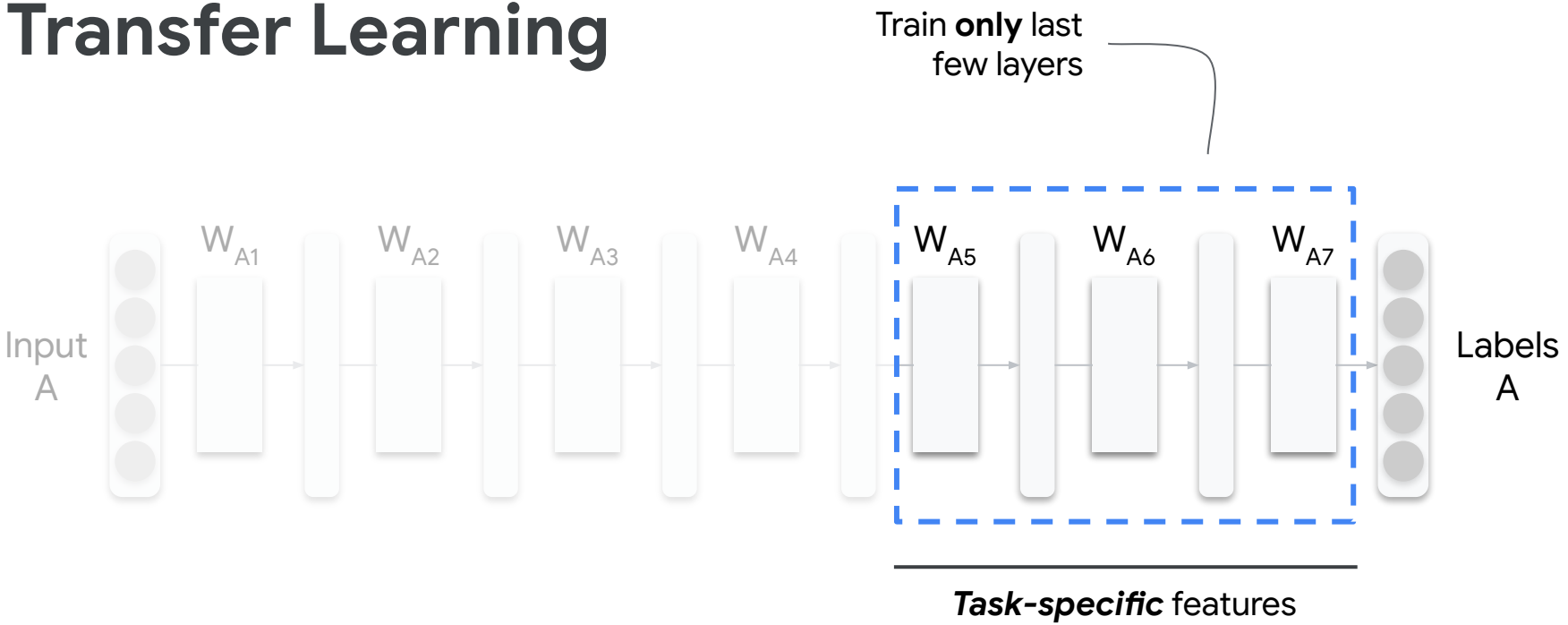
End Result of Training



Transfer Learning

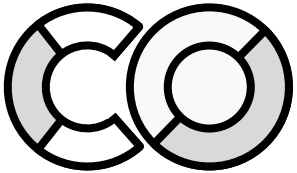


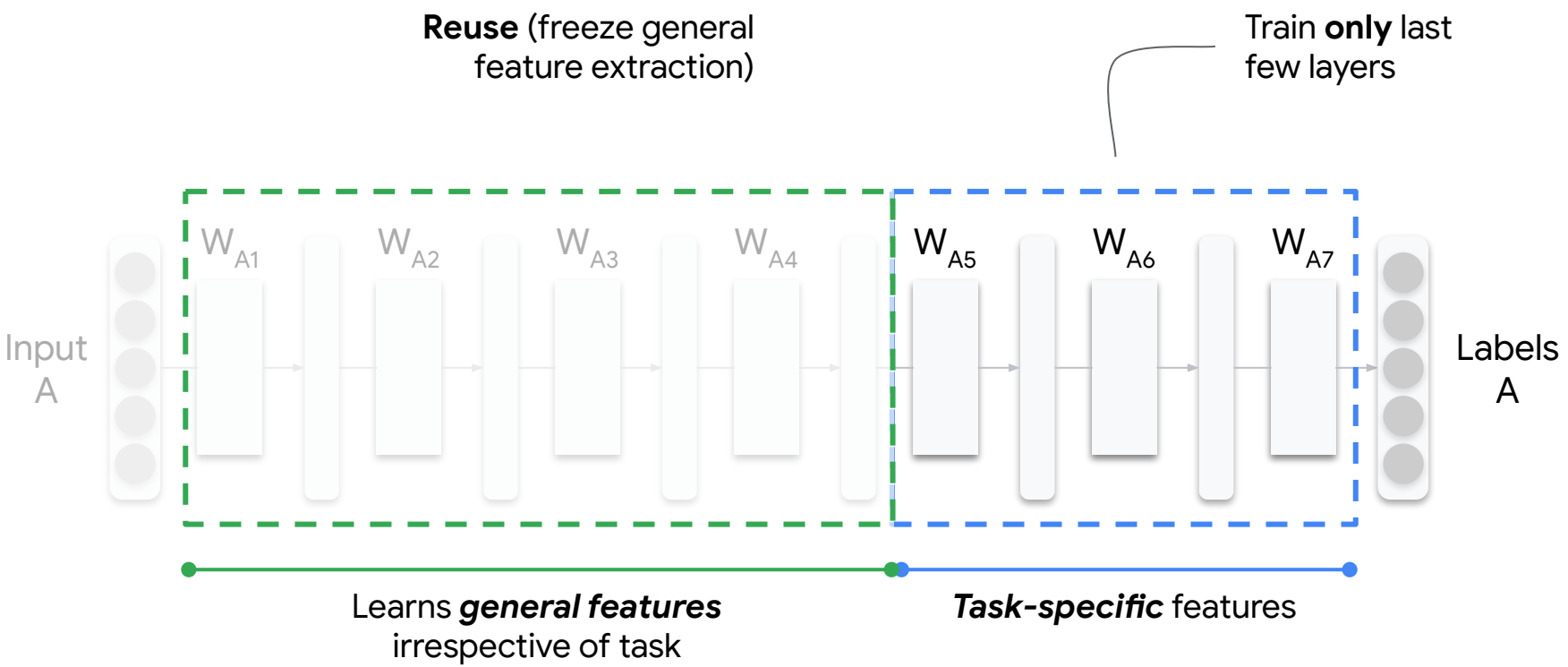
Transfer Learning



Transfer Learning

TensorFlow Example




Reuse (freeze general feature extraction)
Train **only** last few layers
Input A
W_{A1}
W_{A2}
W_{A3}
W_{A4}
W_{A5}
W_{A6}
W_{A7}
Labels A
Learns ***general features*** irrespective of task
Task-specific features