

## Memristor Crossbar Layout

### Layer-by-Layer Mapping

Layer 0:  $2 \times 40 = 80$  memristors

Layer 1:  $40 \times 40 = 1600$  memristors

Layer 2:  $40 \times 40 = 1600$  memristors

Layer 3:  $40 \times 1 = 40$  memristors

**TOTAL: 3320 memristors**

## Circuit Components

Memristors: 3320

Neurons/Activations: 121

Input Encoders: 2

Output Decoders: 1

### Implementation:

- Crossbar: 3320 programmable synapses
- Neurons: RC circuits + comparators
- Technology: Can use ReRAM, PCM, or ECRAM