



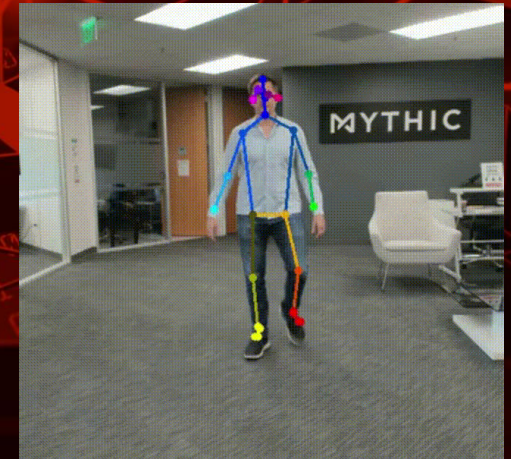
Mondays in Memory

May 2022 Super Panel

Dave Fick, Founder/CTO

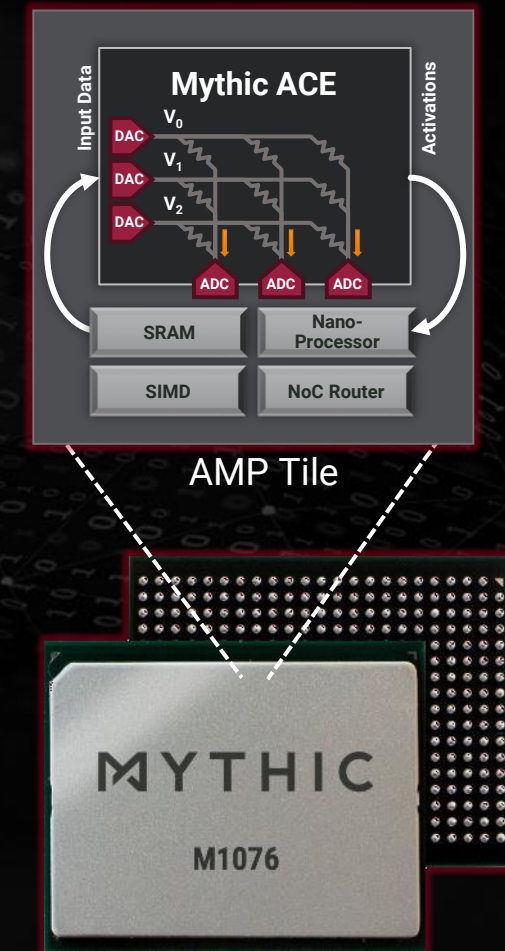
Mythic

- Full-stack AI processor company
- Power-efficient AI inference for the edge
- Pioneering Analog Compute Engine (Mythic ACE)
- 150+ employees world-wide
- \$165M in venture funding through Series C



M1076 Analog Matrix Processor (AMP)

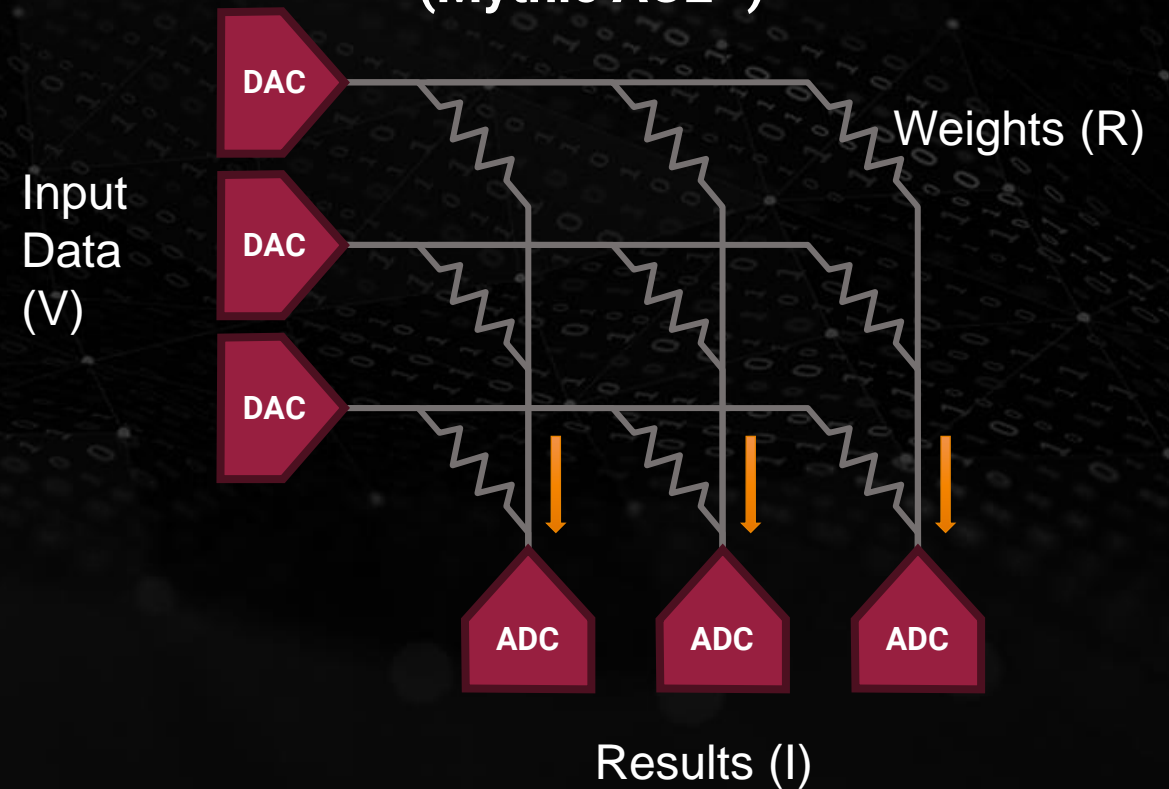
- Powerful 25 TOPS AI Accelerator featuring Mythic ACE
- Dataflow architecture with an array of 76 Mythic AMP™ tiles
 - Capacity for up to 80M on-chip weights
 - DNN models completely reside on-chip – no DRAM
 - Provides low-latency deterministic execution of DNN models
- 4-lane PCIe interface with up to 2GB/s bandwidth
- Typical power running complex models ~3W
- Manufactured with mature 40nm CMOS technology



Mythic's State-of-the-Art

- Embedded flash
 - Meets a long list of product requirements
- 8-Bit Operation
 - Sufficient for the vast majority of computer vision applications
- Larger Arrays
 - 1024x256x4
 - Minimizes operation fragmentation

Mythic Analog Compute Engine (Mythic ACE™)



Current Challenges

Attention Layers

- Multiplies two activations together
- This does not run on compute-in-memory – we need an equivalent structure

Investment in CiM-Targeted NN Research

- CiM systems have different strengths and weaknesses
- Hardware runs software – we need to invest in the software, too!

Future Path and Promises

- Expect to see more hybrid computing
 - Combine the strengths of digital and CiM
 - Requires heterogenous process integration
- Expect to see more focus on software
 - Software is a significant barrier to entry for any new AI processing platform
 - CiM doubles this challenge



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Thank you!

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