

AI 芯片 – AI 计算体系

内容介绍



ZOMI





AI 编译器

从LLVM传统编译器到AI编译器
前端、后端优化和PyTorch2.0

AI编译器 系列

BUILDING A BETTER CONNECTED WORLD

推理引擎

模型小型化、模型压缩
离线转换、图优化、Kernel优化

Ascend & MindSpore

Talk Overview

1. AI 计算体系

- 深度学习计算模式
- 计算体系与矩阵运算

2. AI 芯片基础

- 通用处理器 CPU
- 从数据看 CPU 计算
- 通用图形处理器 GPU
- AI专用处理器 NPU/TPU
- 计算体系架构的黄金10年

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1. 硬件基础

- GPU 工作原理
- GPU AI编程本质

2. 英伟达 GPU 架构

- 从 Fermi 到 Hopper 架构
- Tensor Code 和 NVLink 详解

3. GPU 图形处理流水线

- 图形流水线基础
- GPU 逻辑模块划分
- 图形处理算法到硬件

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1. 华为昇腾 NPU

- 达芬奇架构
- 昇腾AI处理器

2. 谷歌 TPU

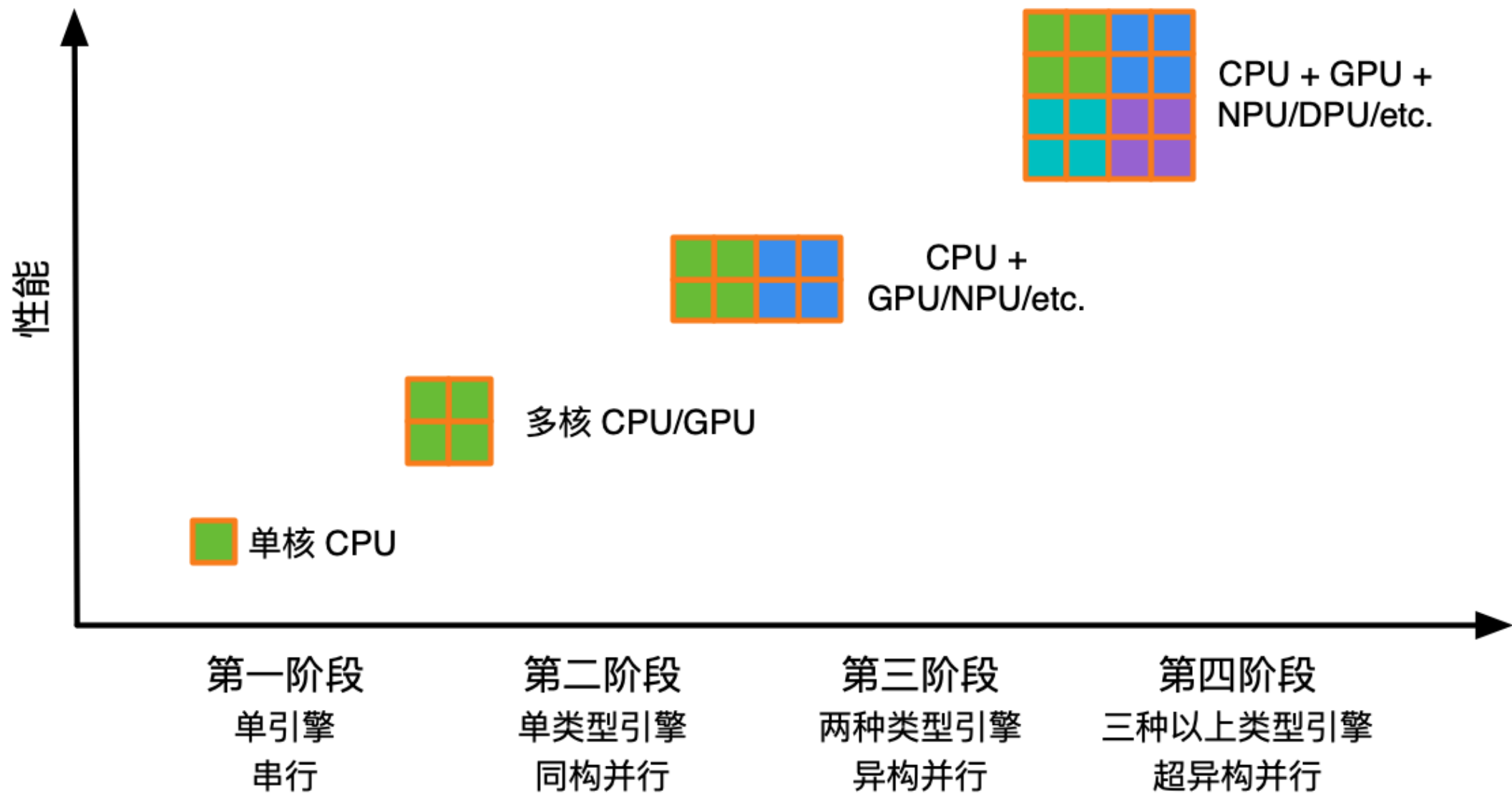
- TPU 核心脉动阵列
- TPU 系列架构

3. 特斯拉 DOJO

- DOJO 架构

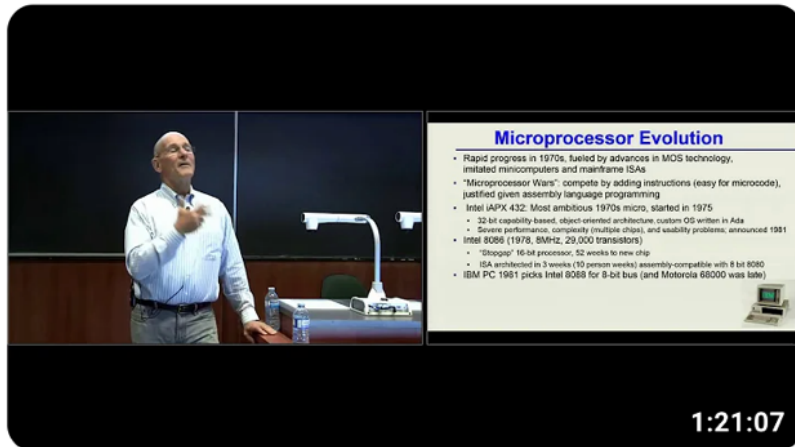
4. 国内外其他AI芯片

- AI芯片的思考



Lessons of last 50 years of Computer Architecture

1. Software advances can inspire architecture innovations.
2. Ultimately the marketplace settles architecture debates.
3. Raising the hardware/software interface creates opportunities for architecture innovation.



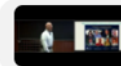
David Patterson - A New Golden Age for Computer Architecture: History, Challenges and Opportunities

7.1万次观看 · 3年前



UBC Computer Science

Abstract: In the 1980s, Mead and Conway democratized chip design and high-level language programming surpassed assembly ...



Turing Awards | What is Computer Architecture | IBM System360 | Semiconductors | Microprocessor... 44 个章节



BUILDING A BETTER CONNECTED WORLD

THANK YOU

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