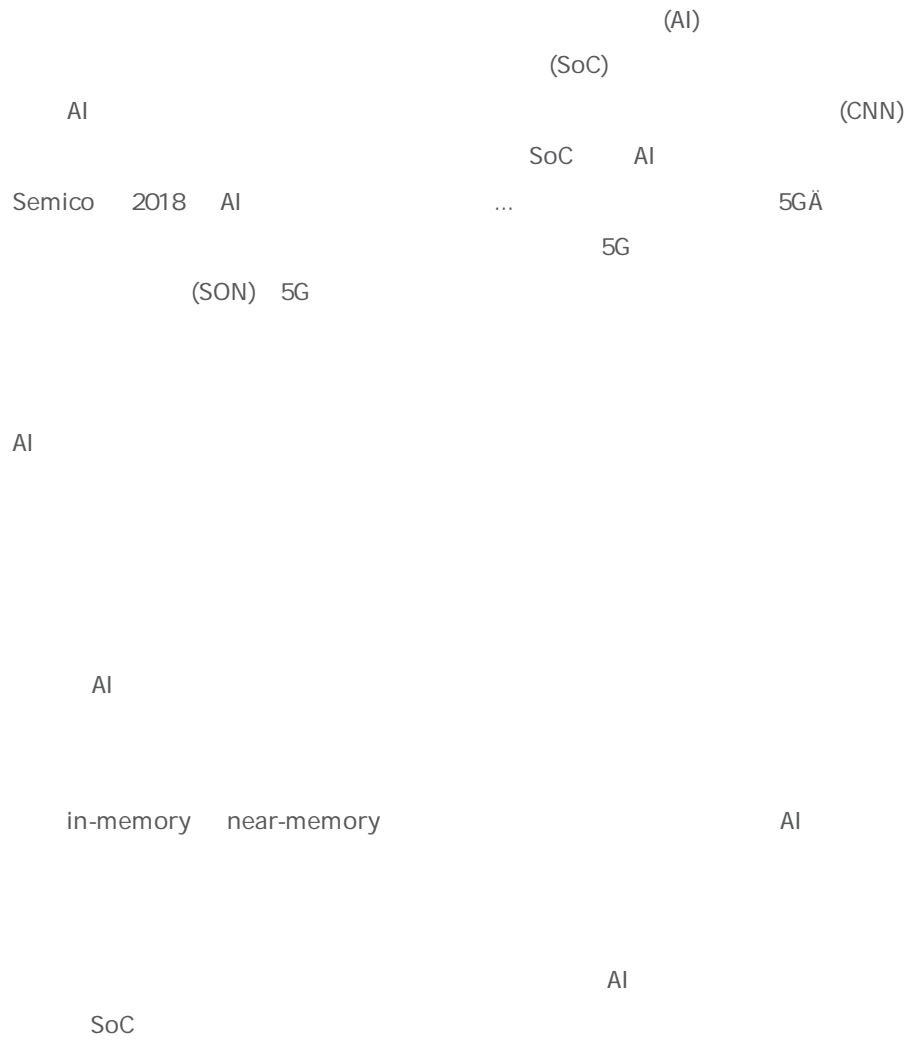


SoC

IP

Ron Lowman

DesignWare IP



AI

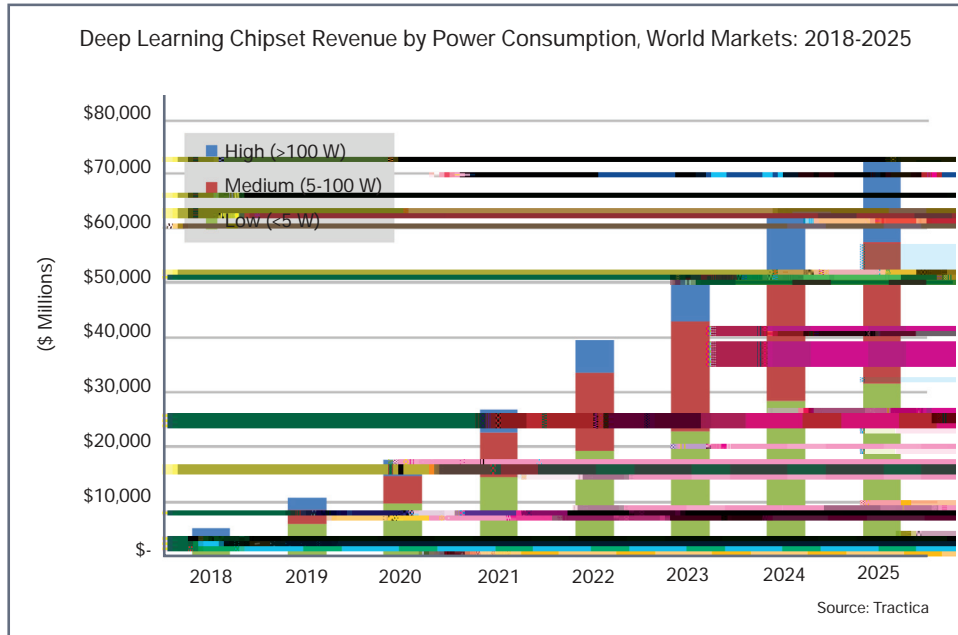
GPU AI

1 : AI

AI

2020 AI
 NVIDIA Intel
 Google TPU

2 100W AI SoC



2: AI

(>5W) SoC

2 5W

AIoT

Tesla ASIC

5W

AIoT

Perceive Kneron Gyrfalcon Brainchip GrAI Matter Labs

AI

AI

AI SoC

80

AI

5G

AI

5G

AI

AI

AIoT

TOPS/W

AI

SoC

DSP

CNN

AI

AI

GB 10 GB
9GB

DDR
89GB

VGG-16

VGG-512

AI

IP
SRAM

(HBM2)

(HBM2e)

FinFET

AI

pruning

pruning

SoC

SoC

LPDDR

AI

MIPI
USB

(CSI-2)
(PDM)

MIPI D-PHY IP
I2S

IP
LiDAR

HDMI DisplayPort

CMOS
PCI Express MIPI

AI

AI

AI

AI

AI

SoC

SoC

AI SoC

SoC

AI

SoC

AI

AI

SoC

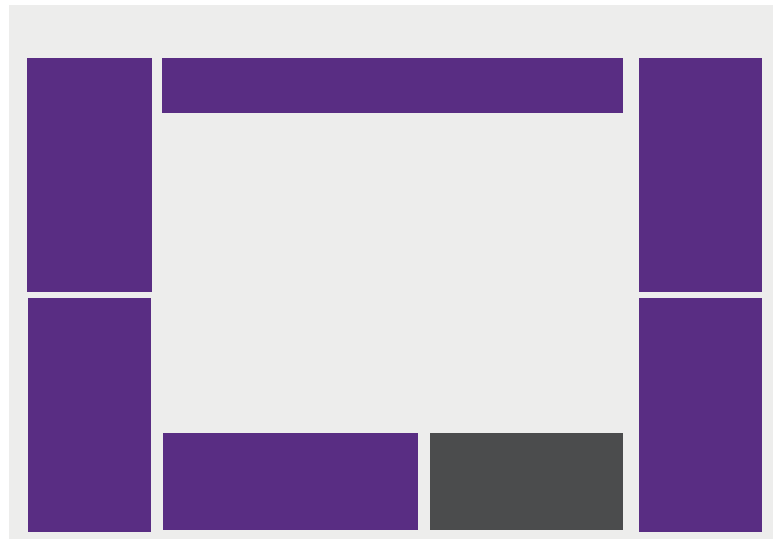
IP

AI SoC

AI SoC

DNA

AI



AI

die-to-die

PCIe

(TCAMs)

SRAM

AI

AI

SoC

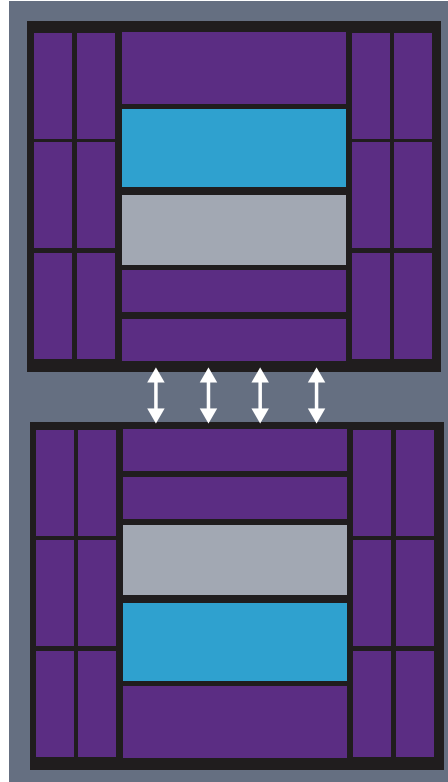
HBM2e

HBM3

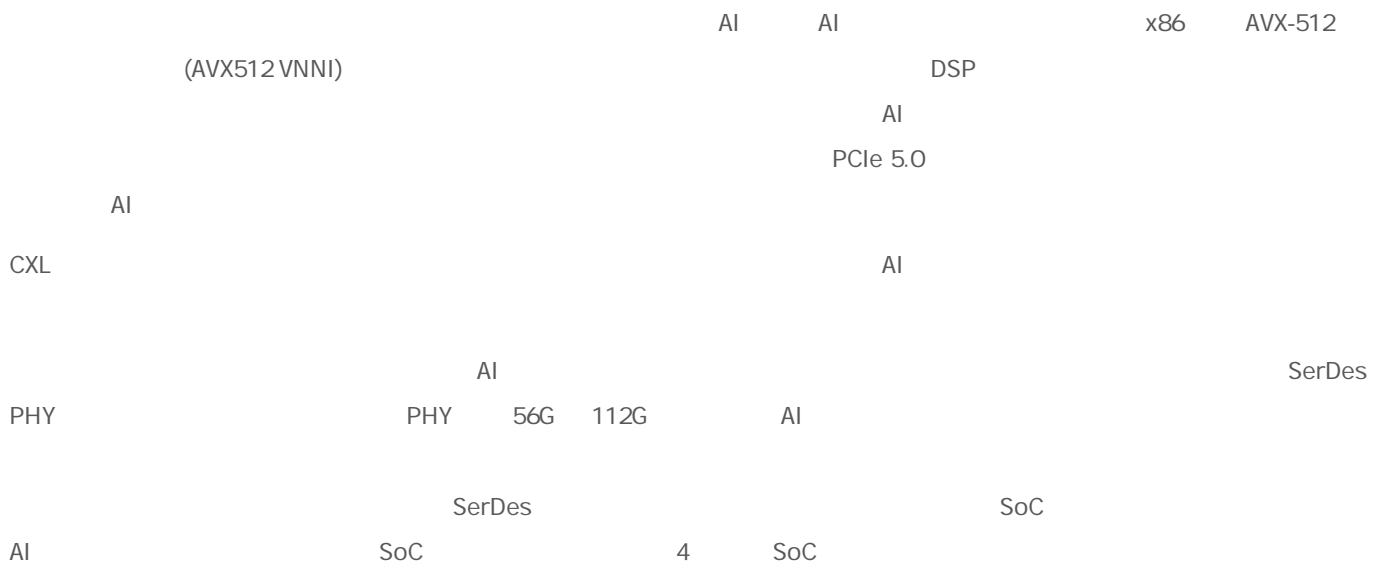
SerDes

AI

PCIe 5.0 LPDDR5 DDR5 HBM2e USB 3.2 CXL PCIe NVMe



HS SerDes XSR/USR PHY with LPDDR



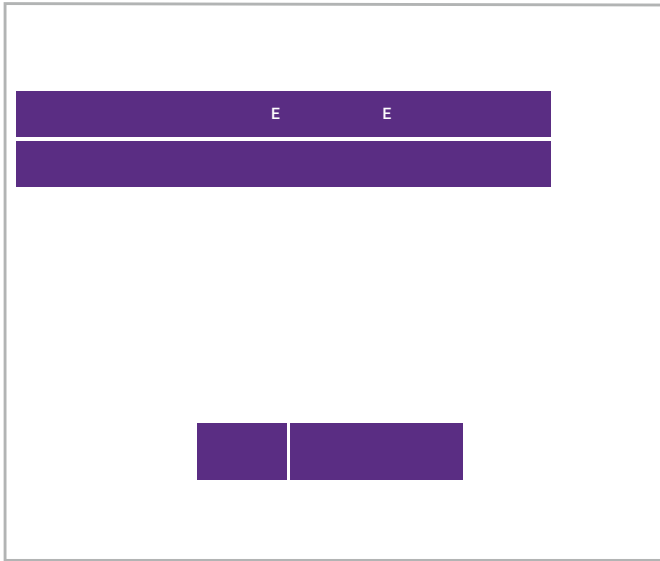
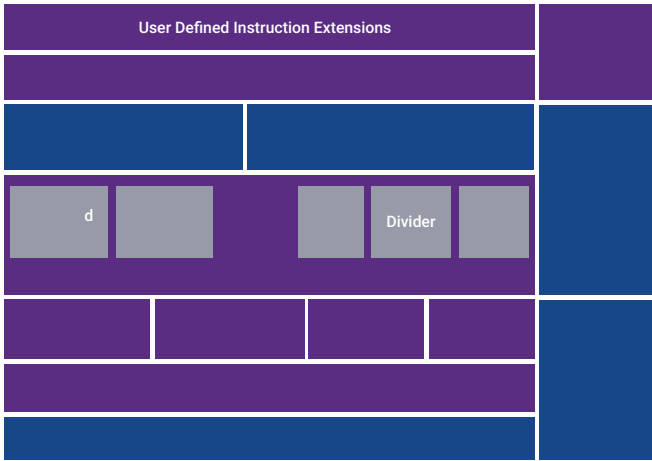
AI

AI

Tensorflow Cafe

AI

IP



AI SoC DesignWare IP

DesignWare IP

IoT

AI

AI

IP

ARC®EV

(CNN) ARCHS EM

RISC DSP

ARC

AI

AI

ASIP Designer

