

Tiny AI – Mit Künstlicher Intelligenz Produkte und Dienstleistungen optimieren



Always On...



AI STORM
Ultra Low power
AI in Sensor
Solutions
In charge domain



Always Watching

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...Always listening



...Always Alert



...Always Waiting



...Always Ready

AI und Anwendungen

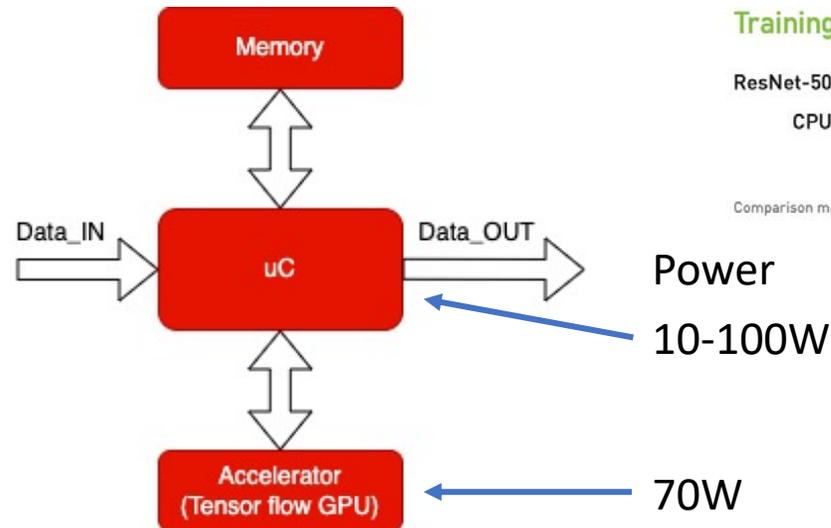


NVIDIA T4
TENSOR CORE GPU

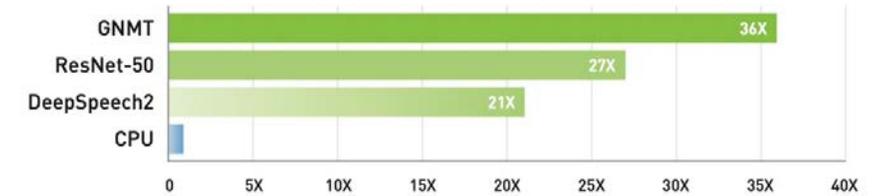
SPECIFICATIONS

GPU Architecture	NVIDIA Turing
NVIDIA Turing Tensor Cores	320
NVIDIA CUDA® Cores	2,560
Single-Precision	8.1 TFLOPS
Mixed-Precision (FP16/FP32)	65 TFLOPS
INT8	130 TOPS
INT4	260 TOPS
GPU Memory	16 GB GDDR6 300 GB/sec
ECC	Yes
Interconnect Bandwidth	32 GB/sec
System Interface	x16 PCIe Gen3
Form Factor	Low-Profile PCIe
Thermal Solution	Passive
Compute APIs	CUDA, NVIDIA TensorRT™, ONNX

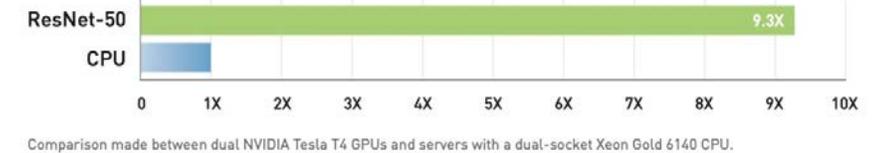
Big Data



Inference Performance



Training Performance



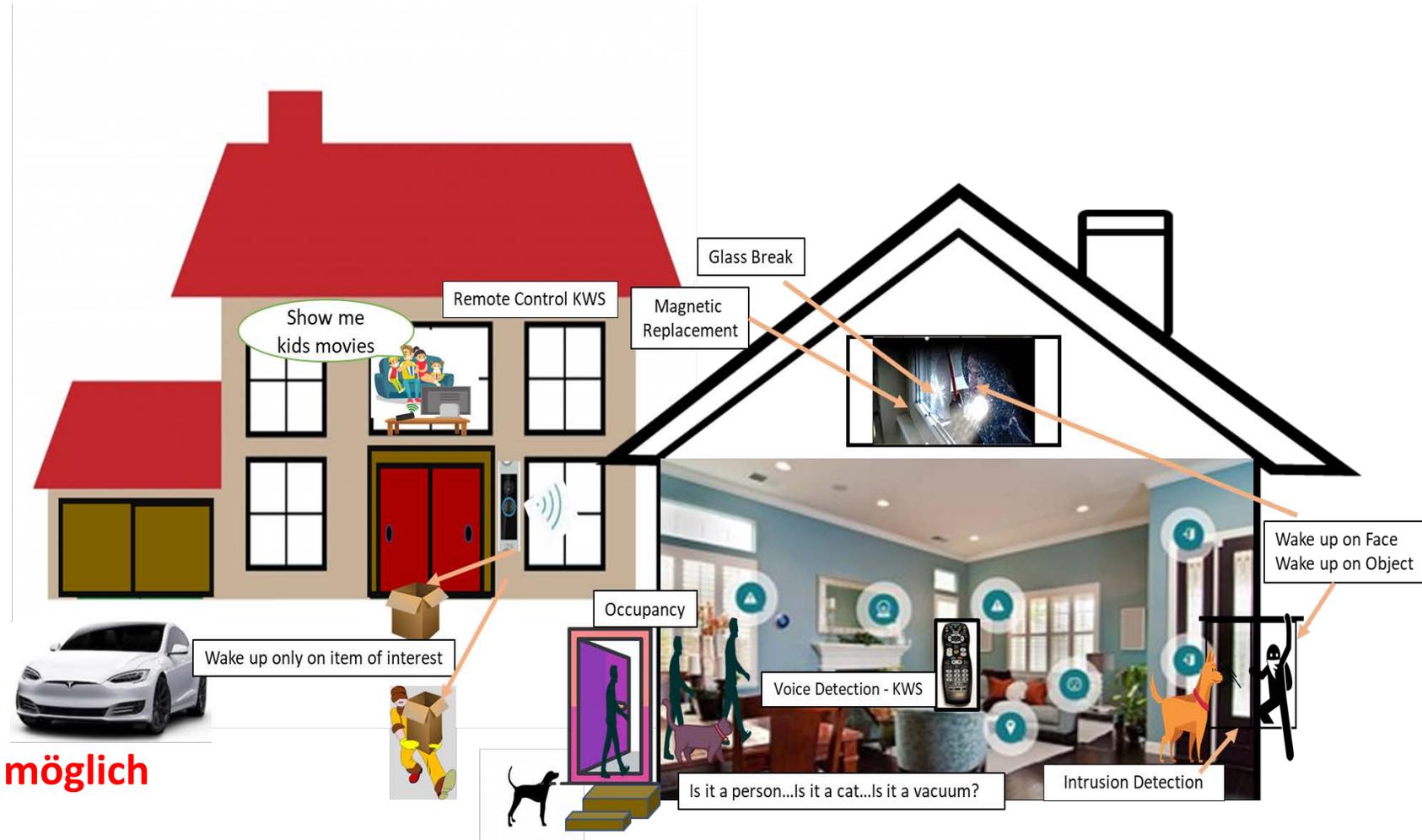
AI und Anwendungen

Tiny AI Einsatzgebiete:

„always on“ Systeme

➤ „wake up“ Systeme

➤ Autarke Lösungen



Leistungsaufnahme: 50-500uW möglich

AI und Anwendungen

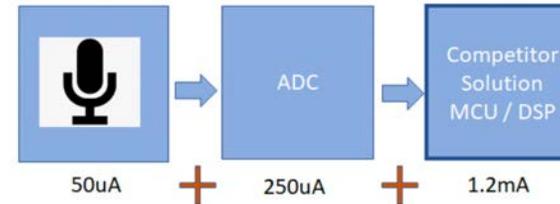
Tiny AI Einsatzgebiete:

➤ „always on“ Systeme

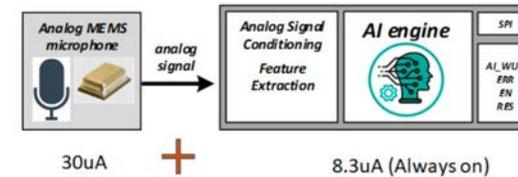
Audio:
Worterkennung

Bild:
Objekterkennung

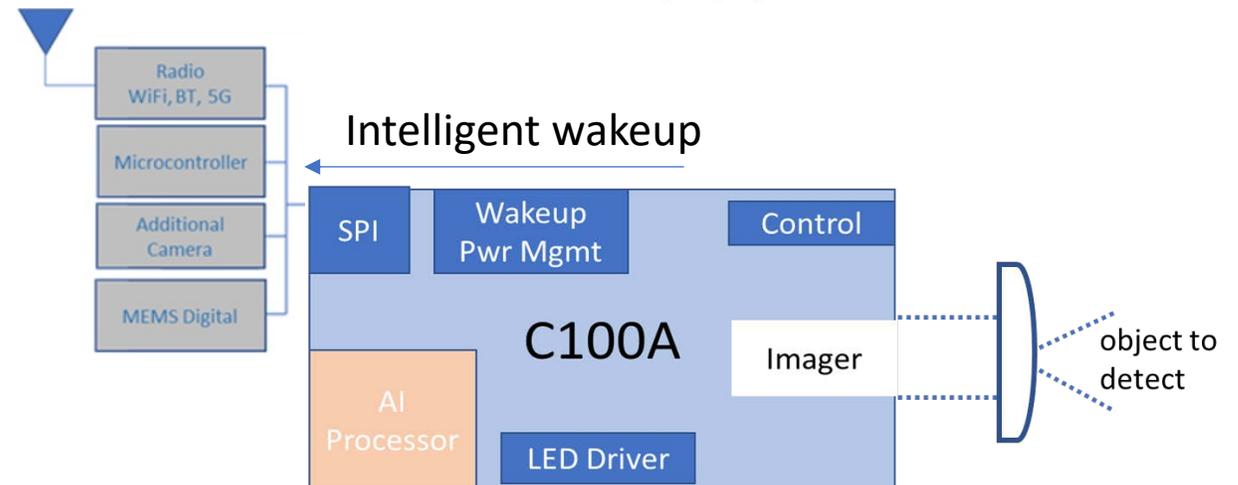
Video:
Objekterkennung mit Richtungserkennung



Low power

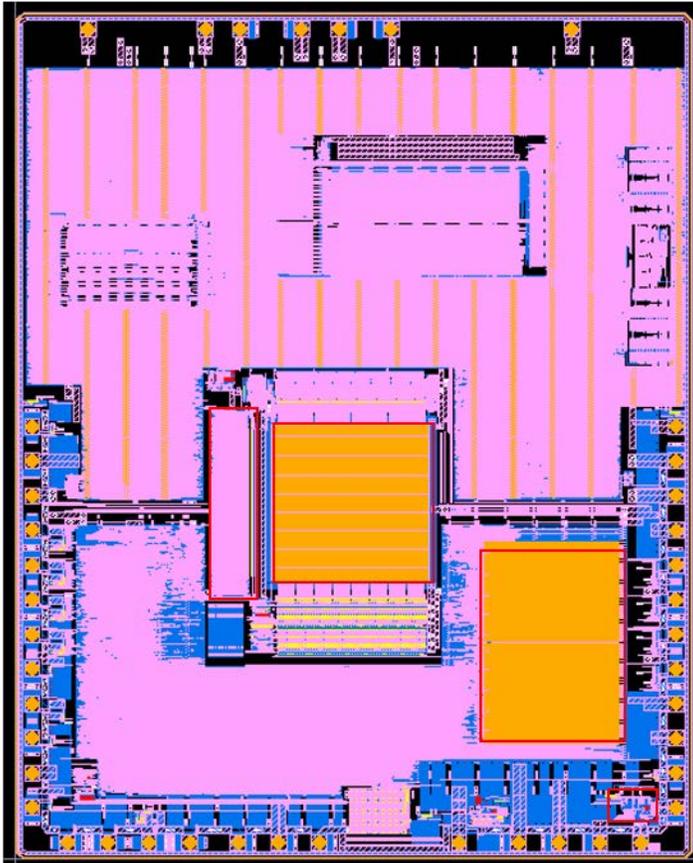


Ultra Low power

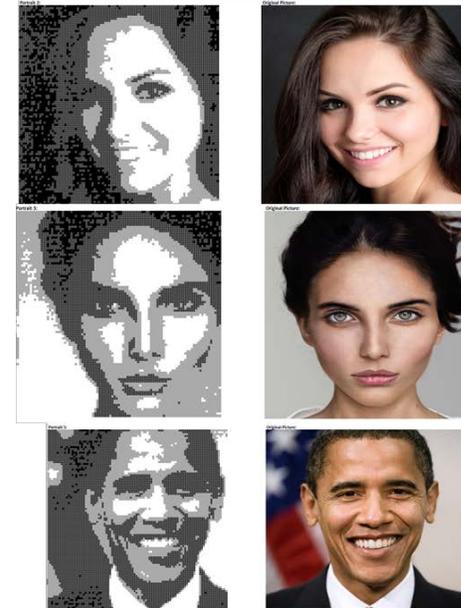
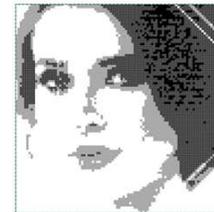


AI-in-Imager Beispiel: Person Erkennung

Mantis C100A



Shown imager data to feed into AI cluster



Always on Power: 50uW. Sensor + Power Management + AI

AI Anwendung 1



Personen Erkennung, Zählung mit Richtungserkennung

Demo 1

AI Anwendung 2



Erwachsene, Kind, Tier

- Erkennung
- Zählung

Demo 2



Thank You!
