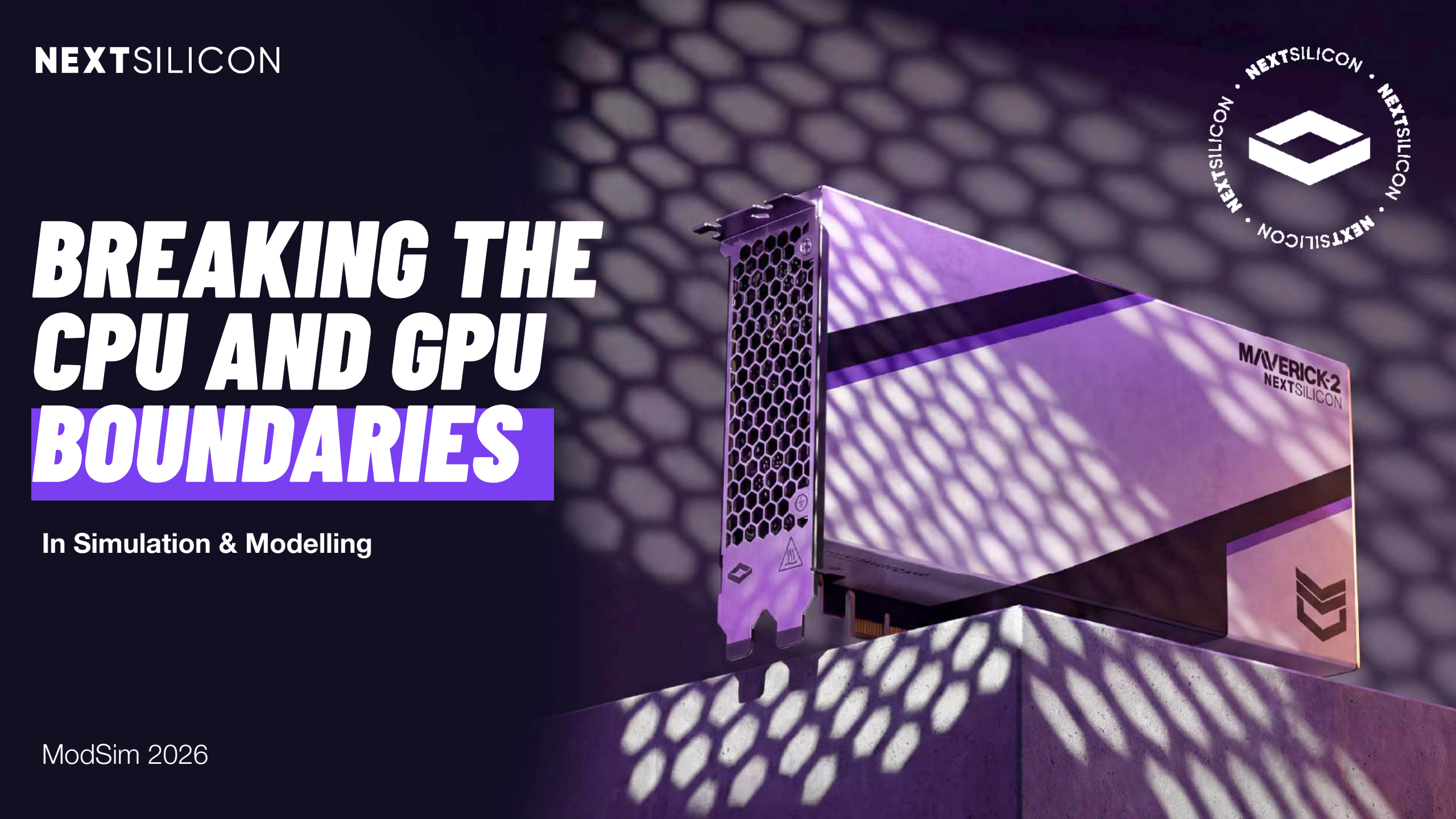
NEXTSILICON

BREAKING THE CPU AND GPU BOUNDARIES

In Simulation & Modelling



ModSim 2026

PRESENTER

HI! I'M ILAN

VP architecture
& Co-Founder

A bit about me

I **co-founded NextSilicon in 2018** and am its **VP Architecture**.

My 30 years' experience include senior staff engineer (software) at **Mellanox Technologies**, distinguished architect at **Integrity Project**, and senior engineer at Nocturnus Systems and Cogniview Systems.

I have authored many patents in computer architecture, and hold a B.Sc. degree in **physics and computer science** from the Hebrew University of Jerusalem.


NEXTSILICON
THE NEXTGEN
COMPUTE PLATFORM
MAVERICK·2

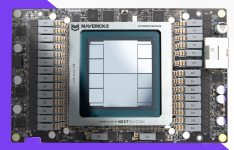
MAVERICK·2

DATAFLOW ACCELERATOR

MAVERICK·2 BY NEXTSILICON · MAVERICK·2 BY NEXTSILICON ·

ACCELERATING VANGUARD

MAVERICK·2



128x Maverick-2 installed on Sandia National Labs' Vanguard system

NEXTSILICON × Sandia National Laboratories

EVERYONE MAKES ONE

Usual Suspects

NVIDIA

intel

AMD

Qualcomm

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ANTHROP\C

WHY?

Usual Suspects

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intel
AMD
Qualcomm

Hyperscalers

Google
amazon
Meta
Microsoft

AI labs

OpenAI
ANTHROP\C

Global Tech Giants

HUAWEI
Alibaba

SQUEEZE A LITTLE MORE

↓

OPTIMIZE

↓

SPECIALIZE

Usual Suspects

NVIDIA. intel.

AMD Qualcomm

Hyperscalers

amazon

Meta Microsoft

AI labs

OpenAI

ANTHROP\C

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SPECIALIZE
EXTREME EXAMPLES

Google
Frozen V2

Gemini-specific ASIC
bakes the model into the silicon

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(Acq by AMD)

ROM weights
on last mask

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Market and industry, not research and innovation

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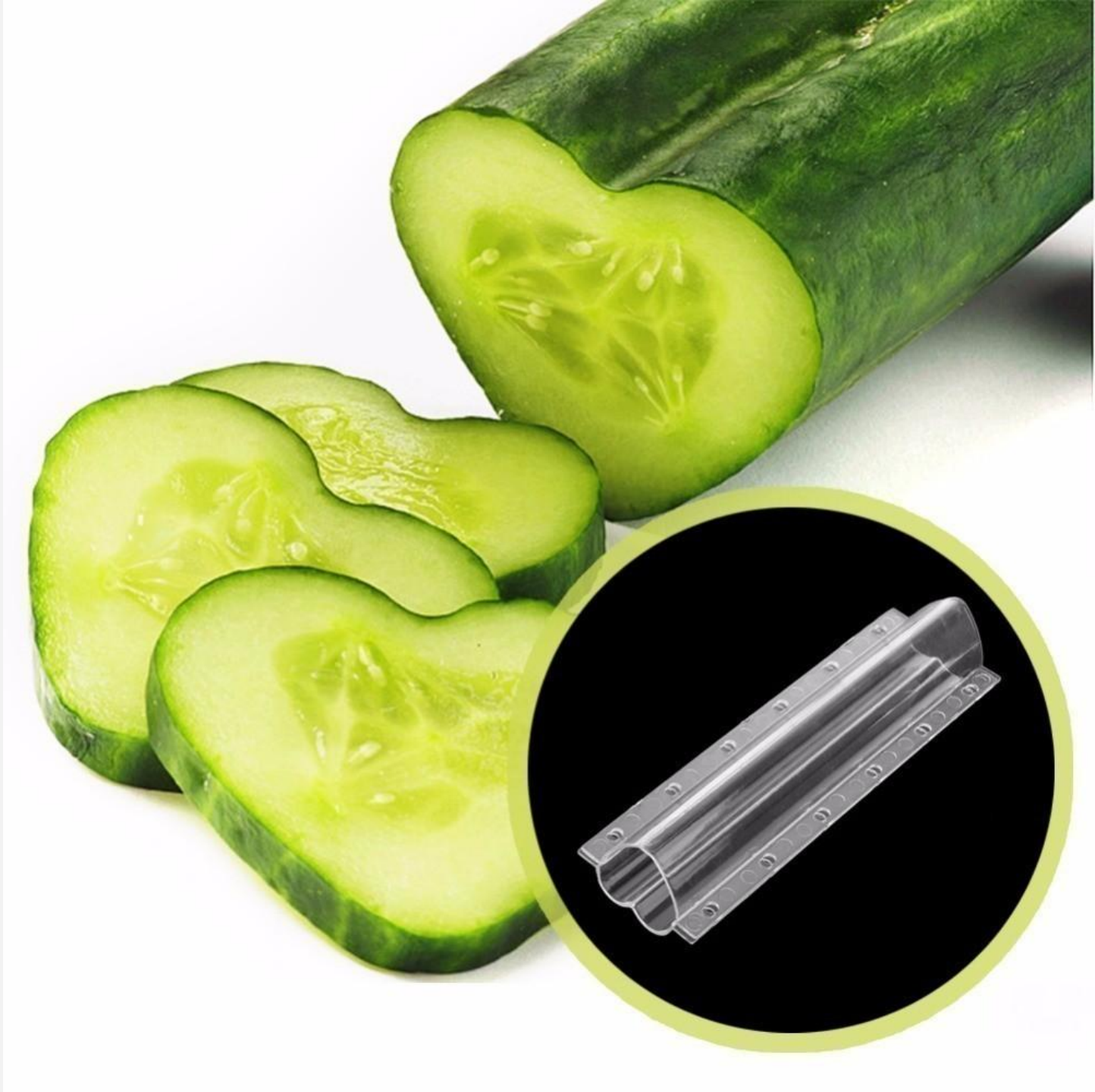
Market and industry, not research and innovation

Leads to stagnation, not to progress

BREAK THE MOLD



NOVEL MODELS

The **most common** use cases:

- Casual Generative AI
- Chatbots
- Agentic uses

Depend on **fast-changing novel models**

Public ones, tip of the iceberg:

- **DeepSeek V4** (April 2026)
- **Kimi K3** (July 2026)
- **Minimax** H3 (July 2026)
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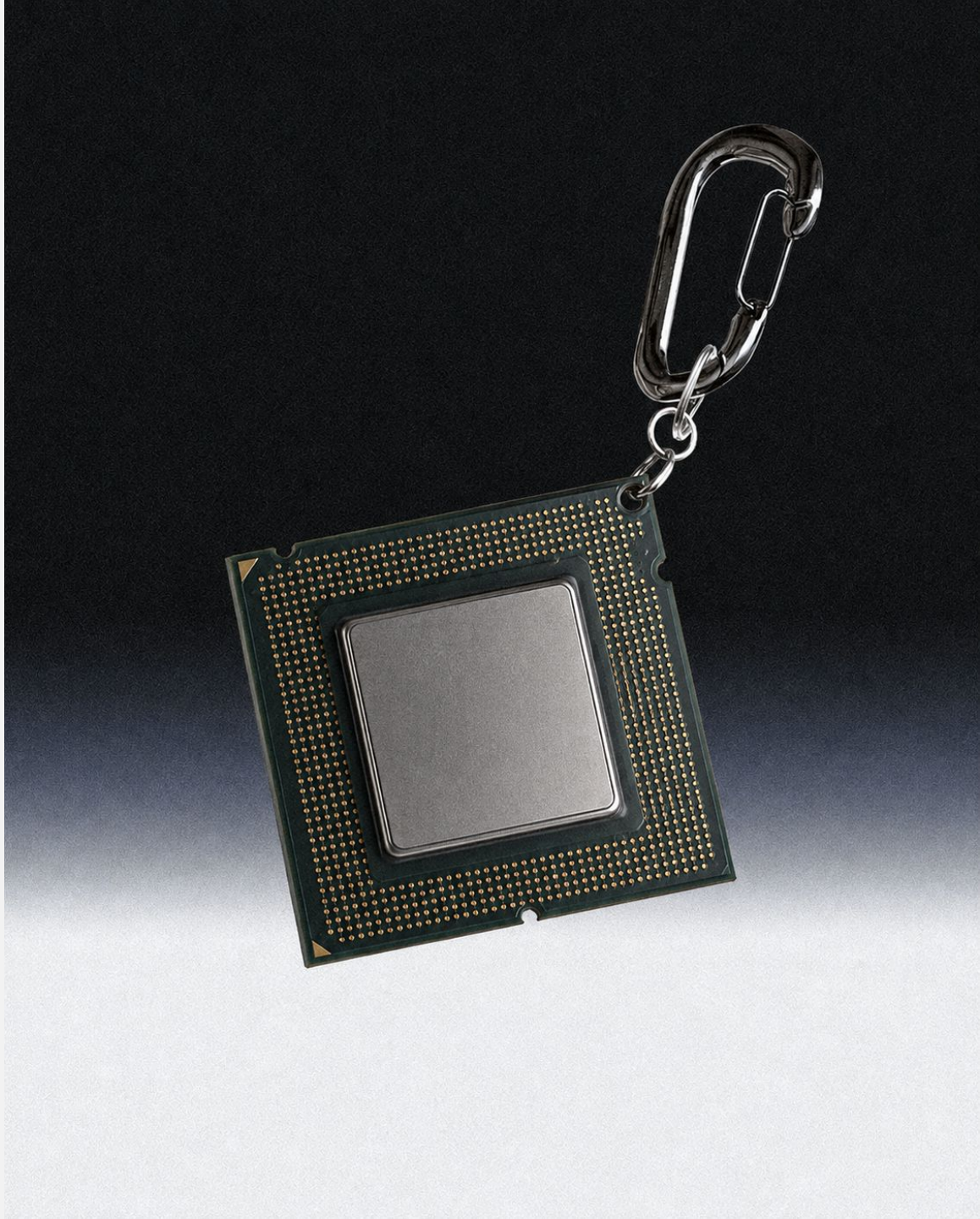
$100M ASIC Makes sense financially?

NOVEL MODELS

MAKE SENSE FINANCIALLY?

Today’s algorithm is tomorrow’s keychain

Re-do **every time** the algorithm changes



GENERAL PURPOSE HARDWARE

Investors circa 2018:

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Recent AI advancements are **far from it**

Activations, Sparse MoE, Hybrid attention, Gated DeltaNet, ‘Adaptive Thinking’, ‘Dreaming V3’

The trend: Future of AI depends on **algorithm variety**

AGENTIC MODSIM

Agentic AI in ModSim

Chemistry question -> script to run GROMACS

Accelerators don’t run GROMACS… or even the script.

Leading to complex systems

A system that can do both!

FUTURE: AGI

AGI Holy Grail

Changing rapidly.

What would it look like 2 years from now?

The future-proof approach allows you to be better prepared for what's next in AGI.

TAKEAWAY

- **Mixed HPC and AI workloads are here:** surrogate models, physics-informed ML, Agentic AI using HPC modelling
- Systems of today have much **to improve**
- **Big opportunities** in general purpose hardware for AI
- Very few contestants - it's **super hard**.

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MAVERICK·2

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