AI Market Dynamics

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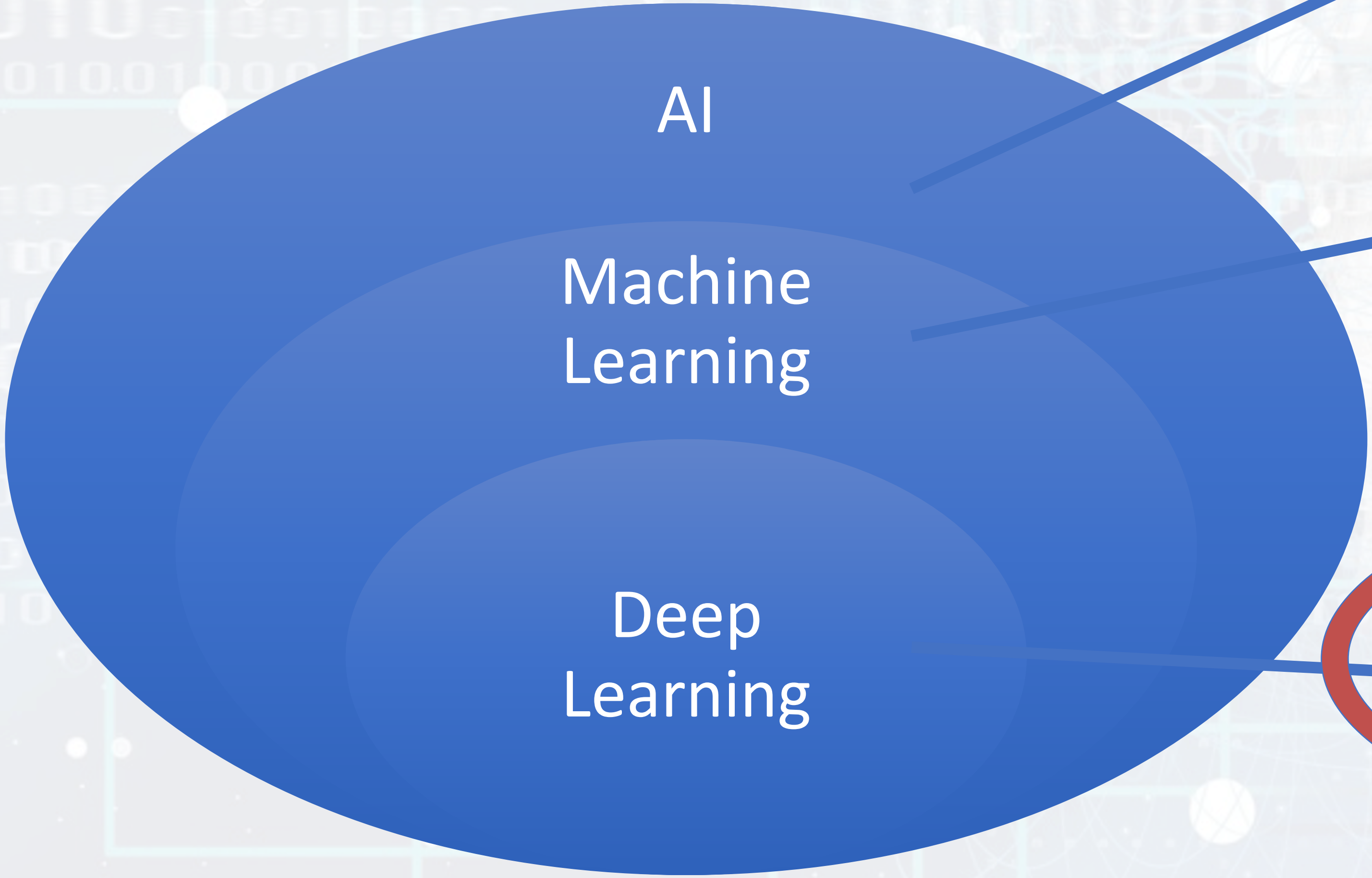
Let’s Define the Space



Includes all applications where the computer mimics human intelligence.

Applications which use known data to create models that can be used to classify / process new data (AKA Statistics)

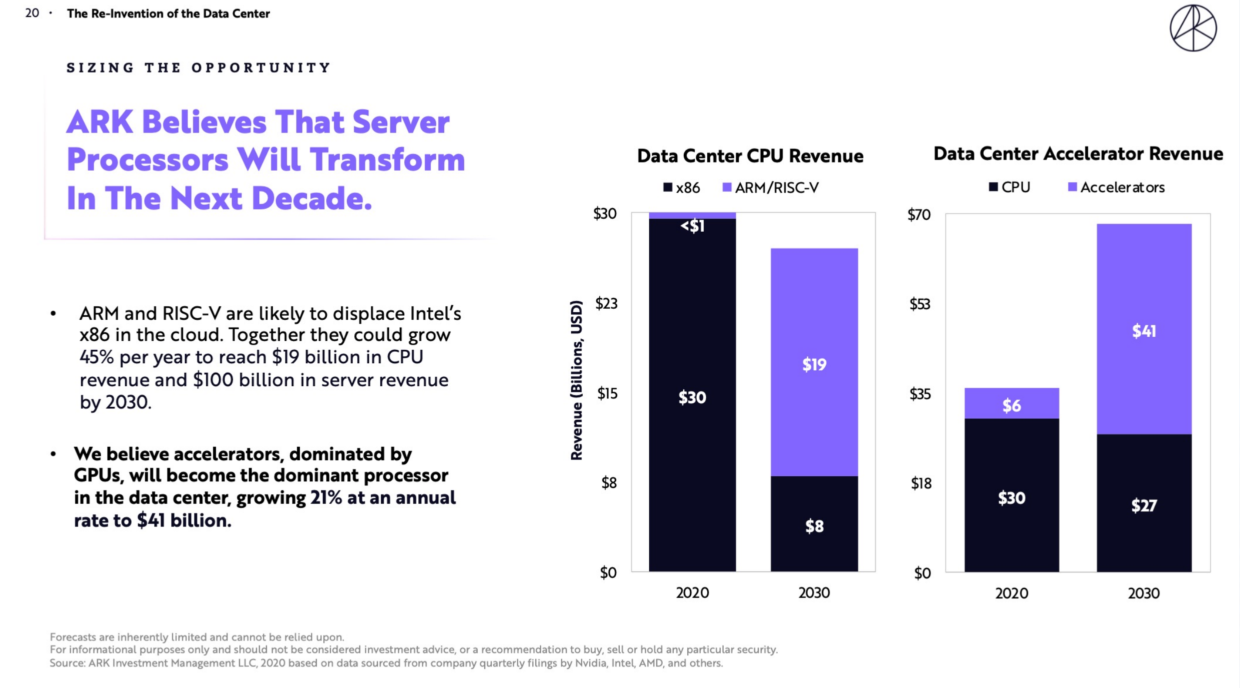
Discover and model complex unstructured data for perception and cognition.

Deep Learning

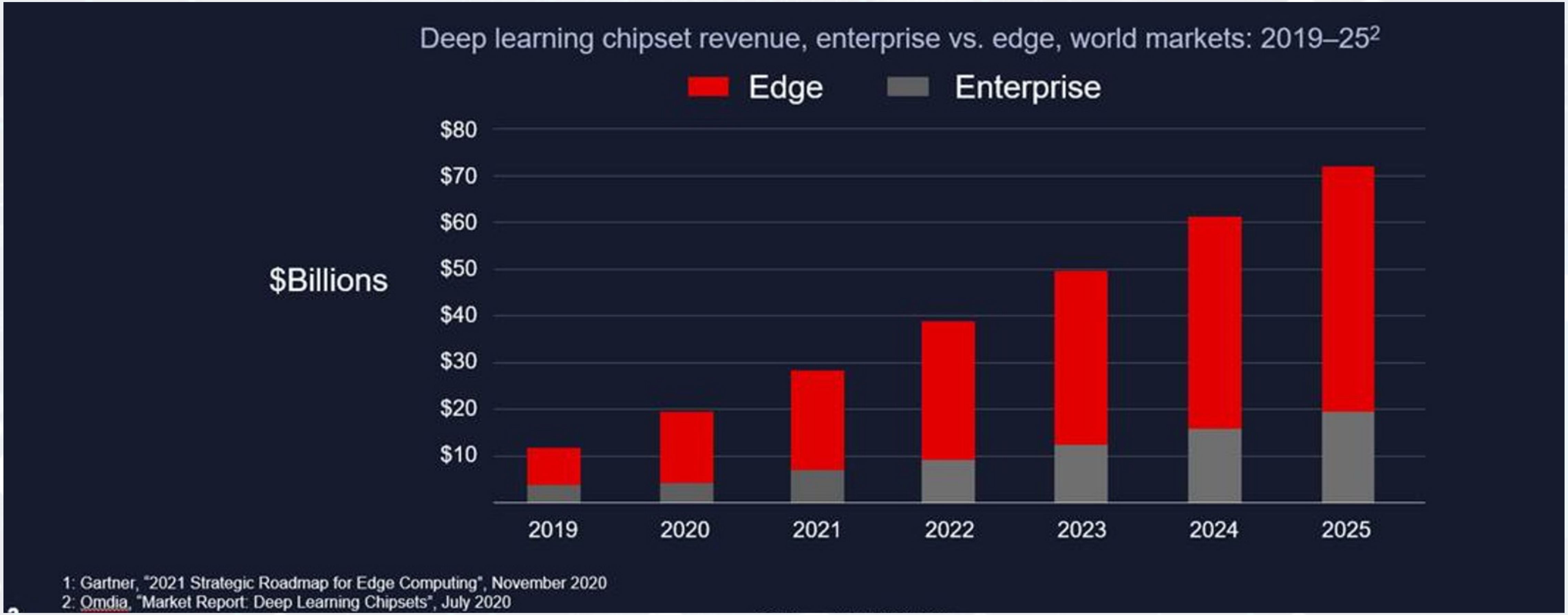
- A completely new way to program computers,
- Don’t tell them how to compute, let them find patterns in data
- Deep Neural Networks have a myriad of forms (DNN, CNN, RNN, …)
  - All take trillions of billions of calculations, hence accelerators.
- Fastest growing areas today:
  - Natural Language Processing and understanding
  - Recommendation Engines (done on Xeon’s today)

Compute Accelerator Market Dynamics

- We expect DC accelerators ($41B) will split 80/20 for GPU/ASICs.
    - Software ecosystem
    - AI and other capabilities make more GPUs a more fungible cloud resource
    - GPU will lose share over time to ASICs
- We expect the Edge accelerators, however, to split 80/20 for ASICs over GPUs
    - Specific app centric
    - Lower power
    - Lower cost
    - Low latency



Market size could reach $71B in 2025



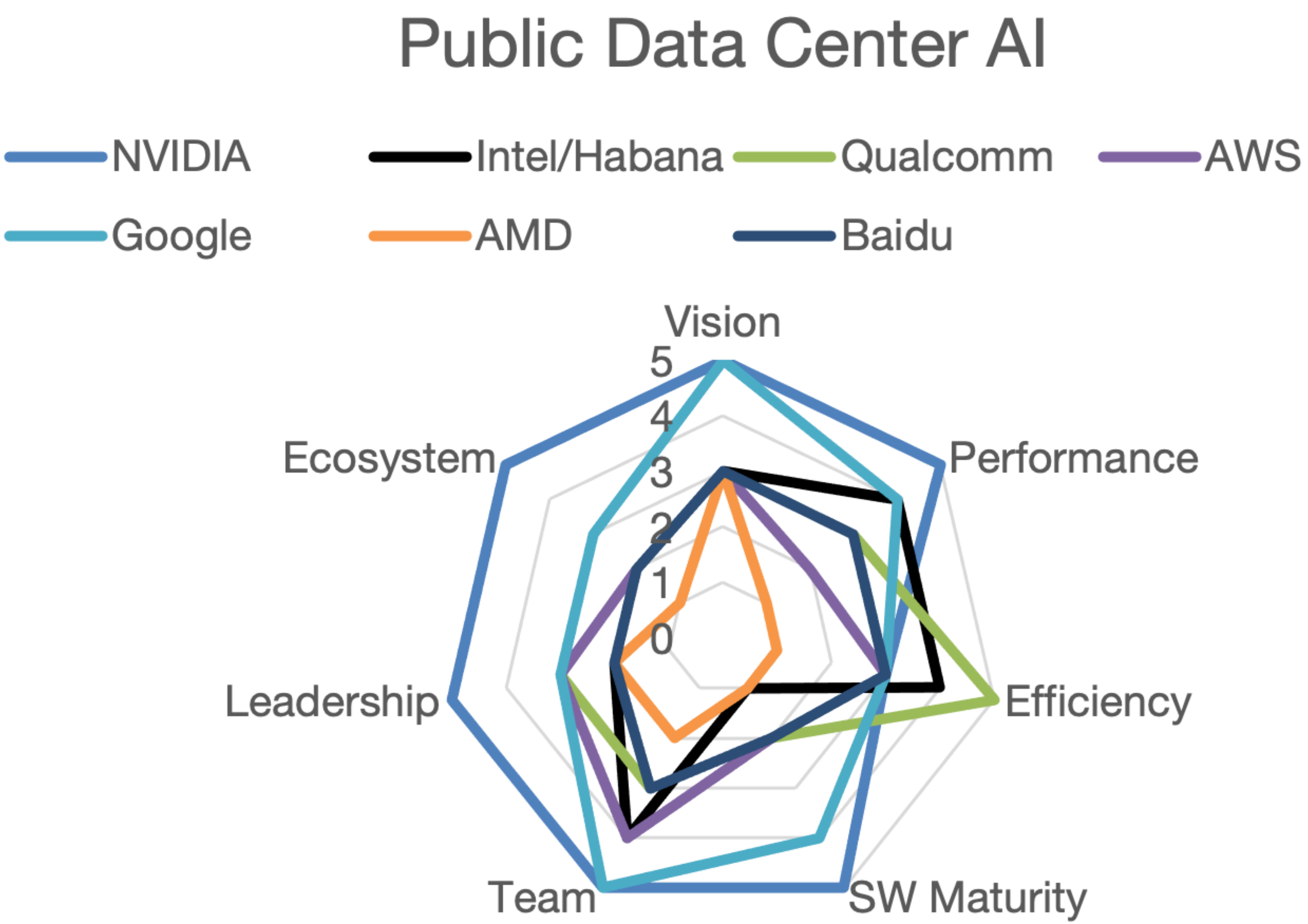
Where do we expect AI innovation?

- Two approaches for **Extremely Large Models**
  - Brute force and problem simplification
- AI will increasingly be used to **design** and optimize AI chips.
- **Edge AI** Scramble:
  - Move to SoCs for high-value edge computing and control, commodities below
- **Technology** advancements:
  - Analog in-memory computing, especially at the edge
  - Increased fast memory capacity (see IBM STT-MRAM, for example.)
  - Quantum for AI is really hard, but will eventually be transformative

The Competitive Landscape, imho

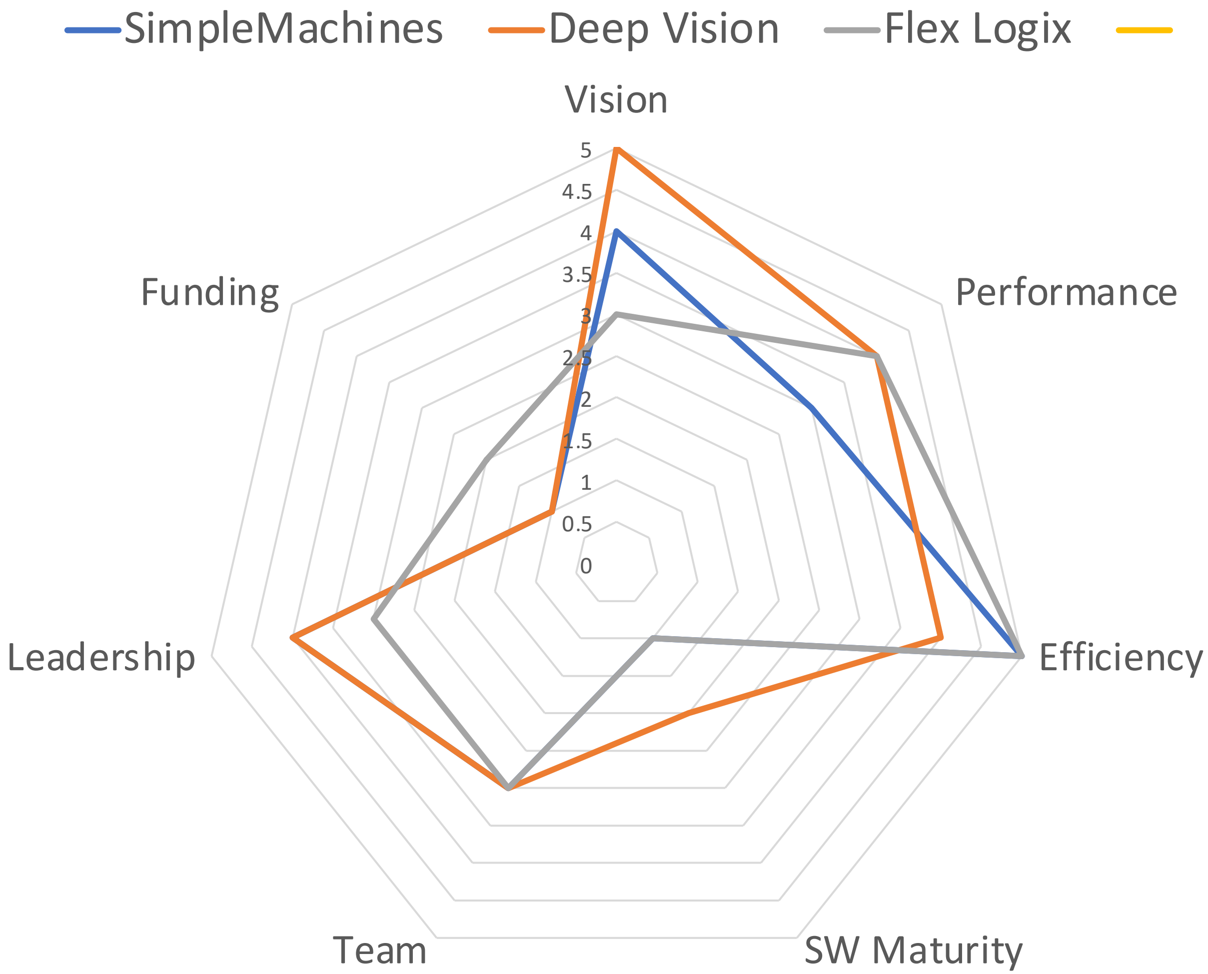
For more details, see: https://cambrian-ai.com/downloads/q2-2021-competitive-landscape-report-cambrian-ai-research/

- Data Center AI:
  - NVIDIA will be extremely difficult to displace
    - ~5-year head start
    - Leadership HW, SW, and massive ecosystem
  - Cerebras, Google, Graphcore, Intel and Tenstorrent will each carve out a footprint
  - Qualcomm has deep expertise and power efficiency (Cloud Edge)
  - AMD is very late to the party, but has won 2 Exascale S.C. deals
  - China is moving up quickly (Baidu, Alibaba, Huawei)
- Edge AI:
  - The Market is Nascent
  - Some startups have platforms, most have PowerPoint and lots of $$$.



From the 2nd Quarter Competitive Landscape Report, www.cambrian-ai.com

Startups Edge AI



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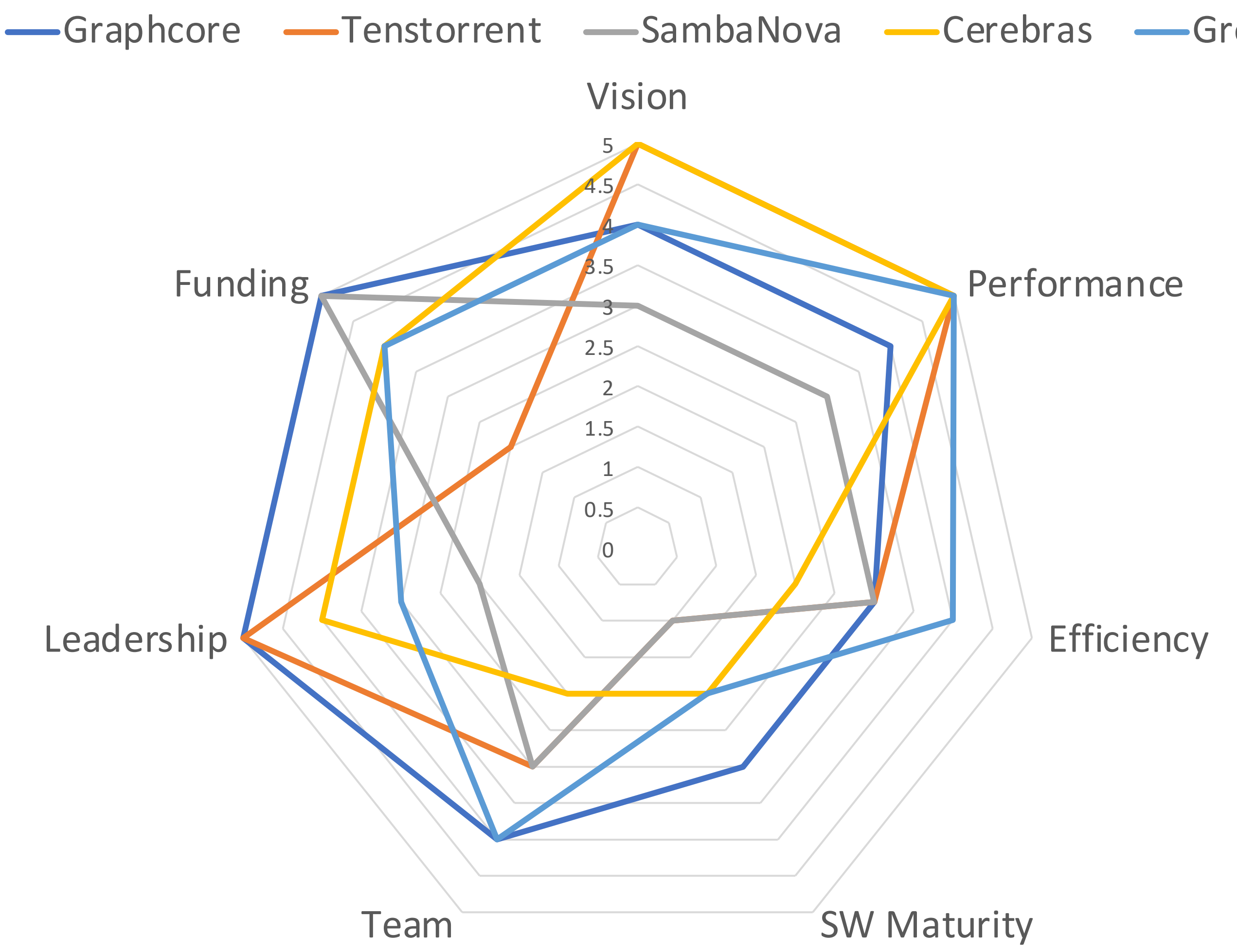
Startups: Data Center AI



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Meet our family of Trilobites from the Cambrian Explosion!

Hello, I'm Cam!

Hi! I'm Brian!

And, I'm Devon!

Thank you!

For More Details, see my free report, https://cambrian-ai.com/downloads/q2-2021-competitive-landscape-report-cambrian-ai-research/

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