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Agenda

- Machine Learning 101
- New Era in Machine Learning
- Value of Machine Learning
- Trends in AI/ML
- Hurdles in AI/ML
- Solving the Data Challenge
- Making AI/ML Accessible

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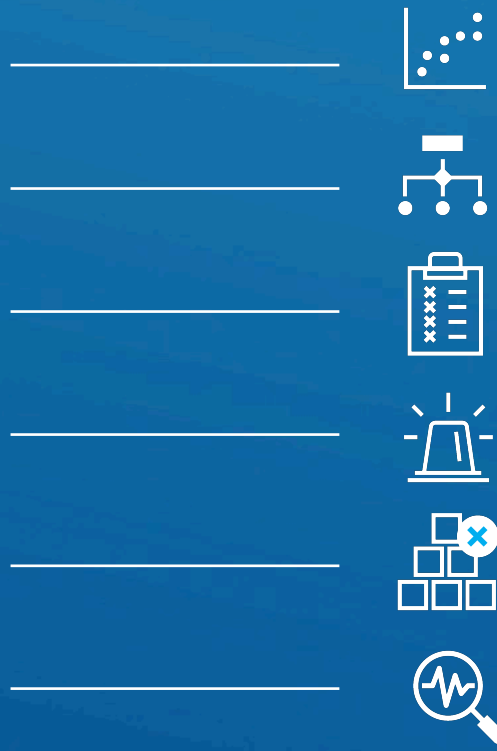
Types of Machine Learning



- Quantitative
- Recommender
- Categorization
- Alerts
- Pass/Fail
- Time Series

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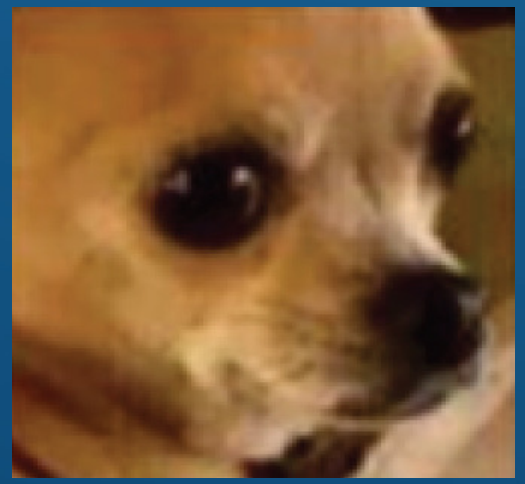
Machine Learning models excel at pattern recognition and replication of patterns, but not understanding what they are looking at.

Blueberry Muffin



Not Food

https://www.freecodecamp.org/news/chihuahua-or-muffin-my-search-for-the-best-computer-vision-api-cbda4d6b425d/

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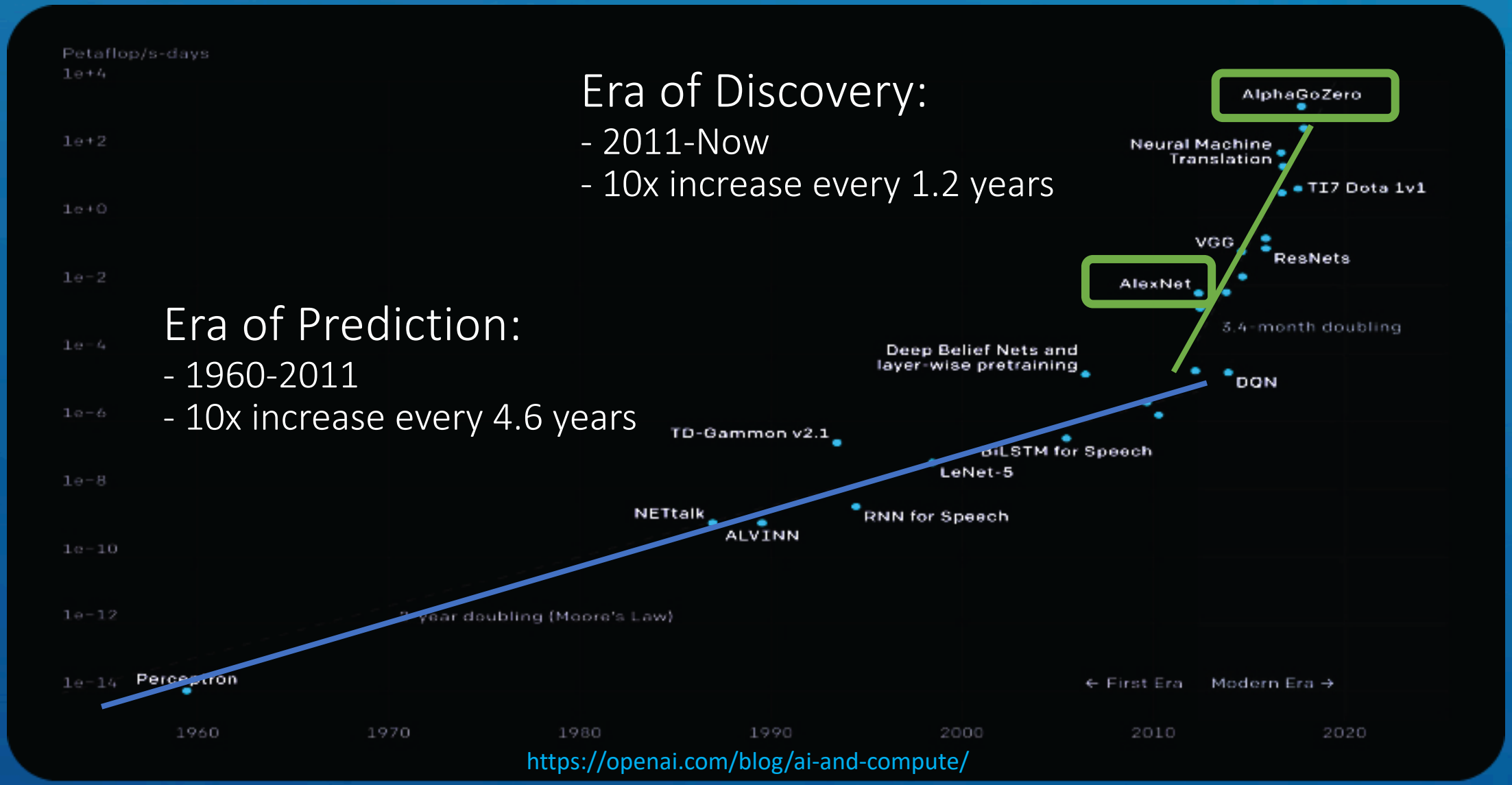

https://openai.com/blog/ai-and-compute/

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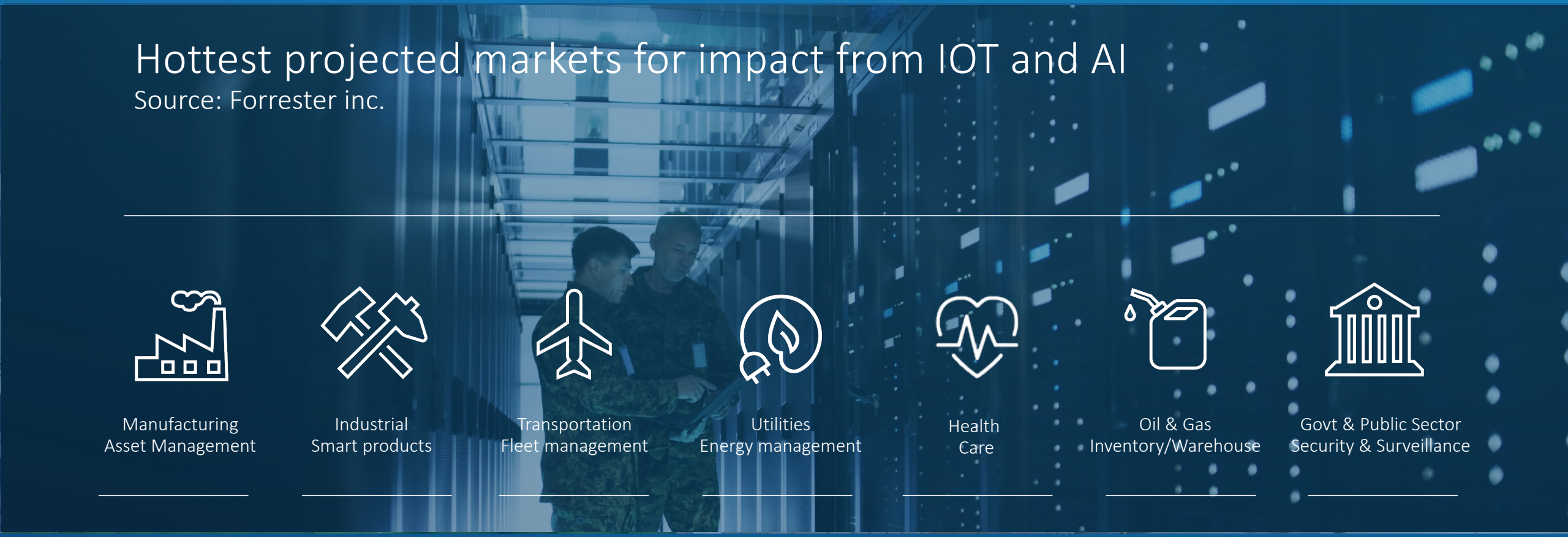
Hottest projected markets for impact from IOT and AI

Source: Forrester inc.



- Manufacturing
  Asset Management
- Industrial
  Smart products
- Transportation
  Fleet management
- Utilities
  Energy management
- Health
  Care
- Oil & Gas
  Inventory/Warehouse
- Govt & Public Sector
  Security & Surveillance

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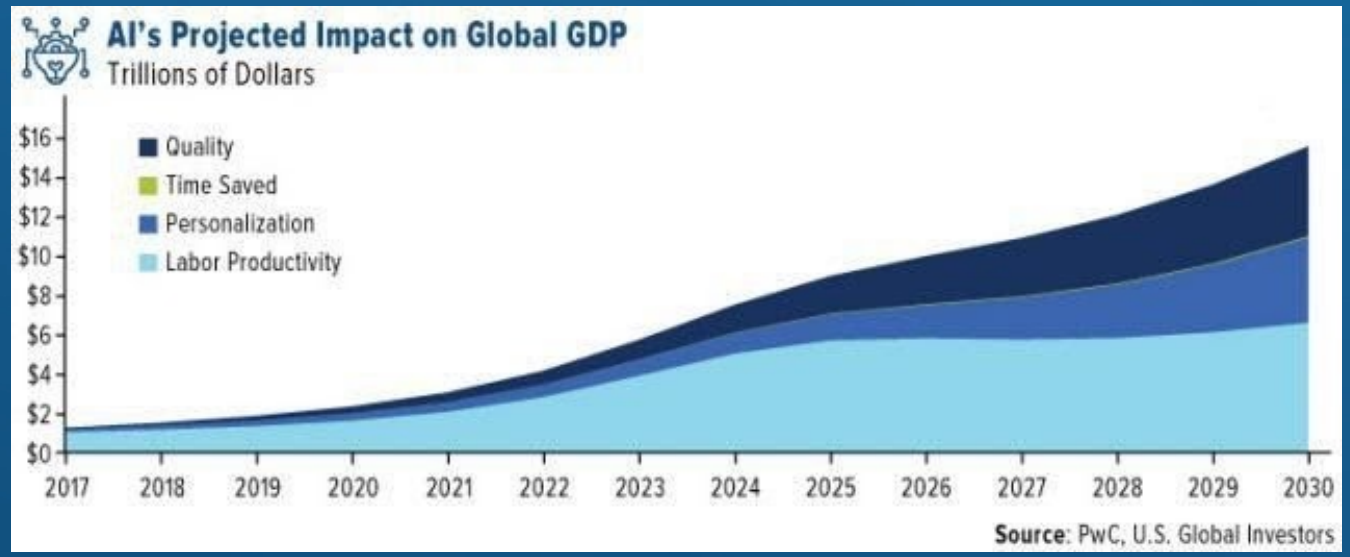
AI Will add $15 Trillion USD to the Global Economy by 2030.

Forbes 2019



Labor Productivity $6 Trillion	Personalization $4 Trillion	Quality $4 Trillion	Time Saved $1 Trillion

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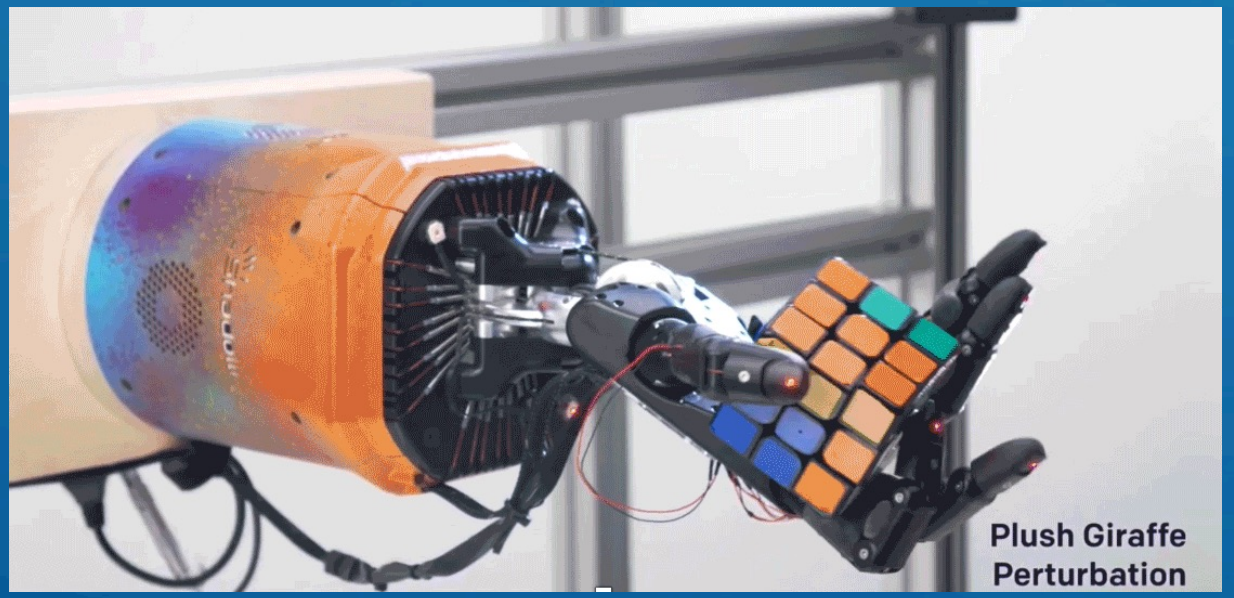
OpenAI: No rules, no data, 2x better than human training



Existing Hardware

Train in simulation

Automatic data randomization

Reinforcement learning

Progressive Tasks

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"When building a precise and robust neural network it's important to recognize that **output alone is insufficient to communicate the model's strengths and weaknesses. The opaque nature of deep learning…**
This limitation is a key reason why design audits are frequently omitted from DL workflows"

DarwinAI.com (Mohammad Javad Shafiee/Alexander Wong)

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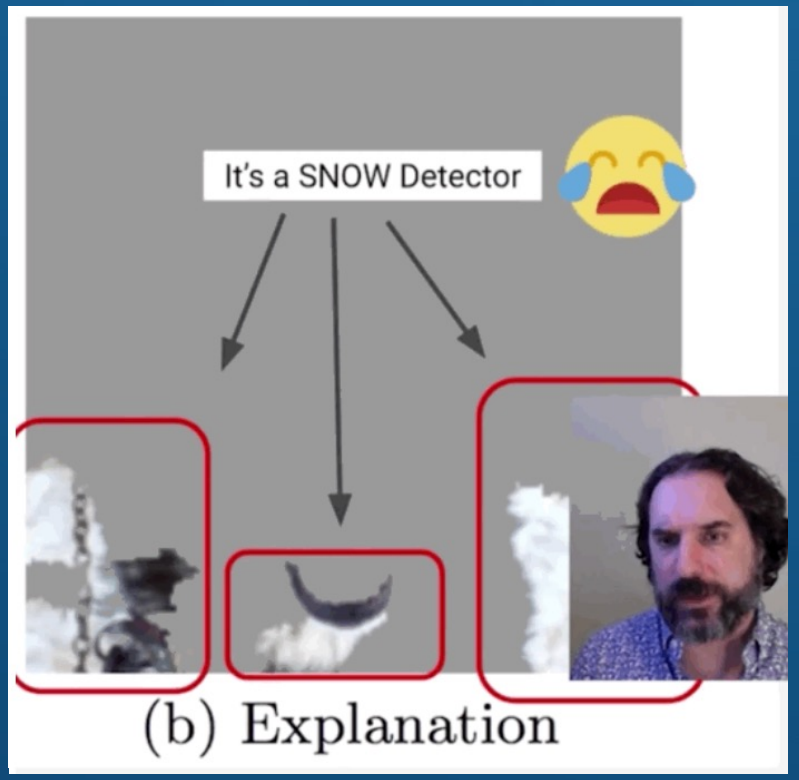

David.aronchick@Microsoft.com

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Existing Data Flow Process $$$$$$

Gather Store Data

Clean and Categorize Data

Push to Cloud

Develop and Train Model

Deploy/Manage

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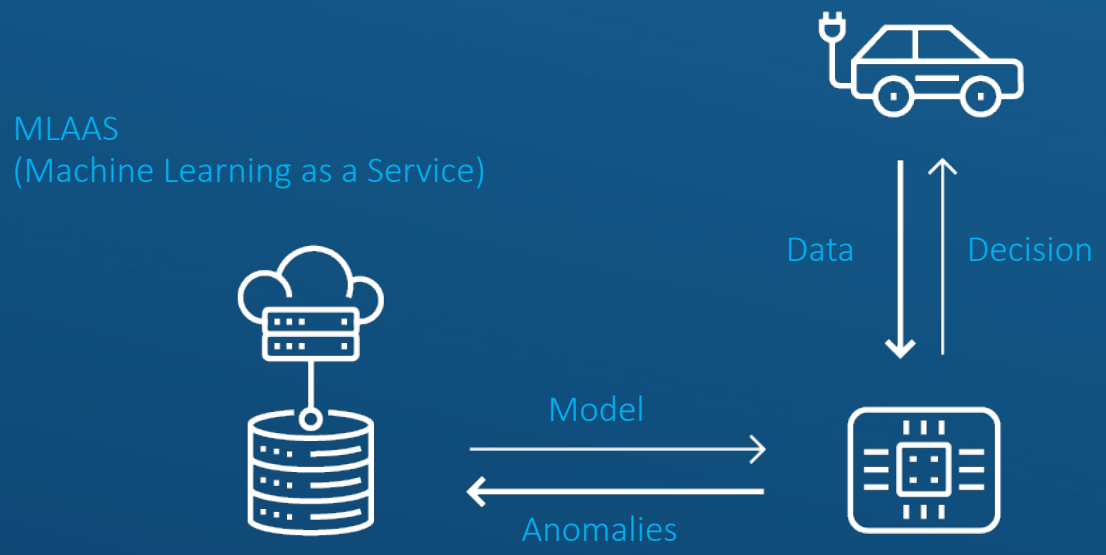
Modern Data Architecture(Edge)



Central location where models are developed, trained

- Edge applications (bank branches, factories, retail stores, vehicles) are where decisions are made and where data lives
- Model can be customized based on region

Chips in devices (IOT) use the models to make decisions and feedback new patterns

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Making AI & ML Radically Accessible

Streamlined

A low friction process focused on making robust models

Innovative

Our own dedicated GPU servers offering efficient and low-cost computer

Secure

End to end API based security delivered on our own secure hardware

Edge to Cloud

Partners that have unique IP to deliver ML models to the edge

ML Neighborhood

Creating a community platform for ML enthusiasts to share and learn

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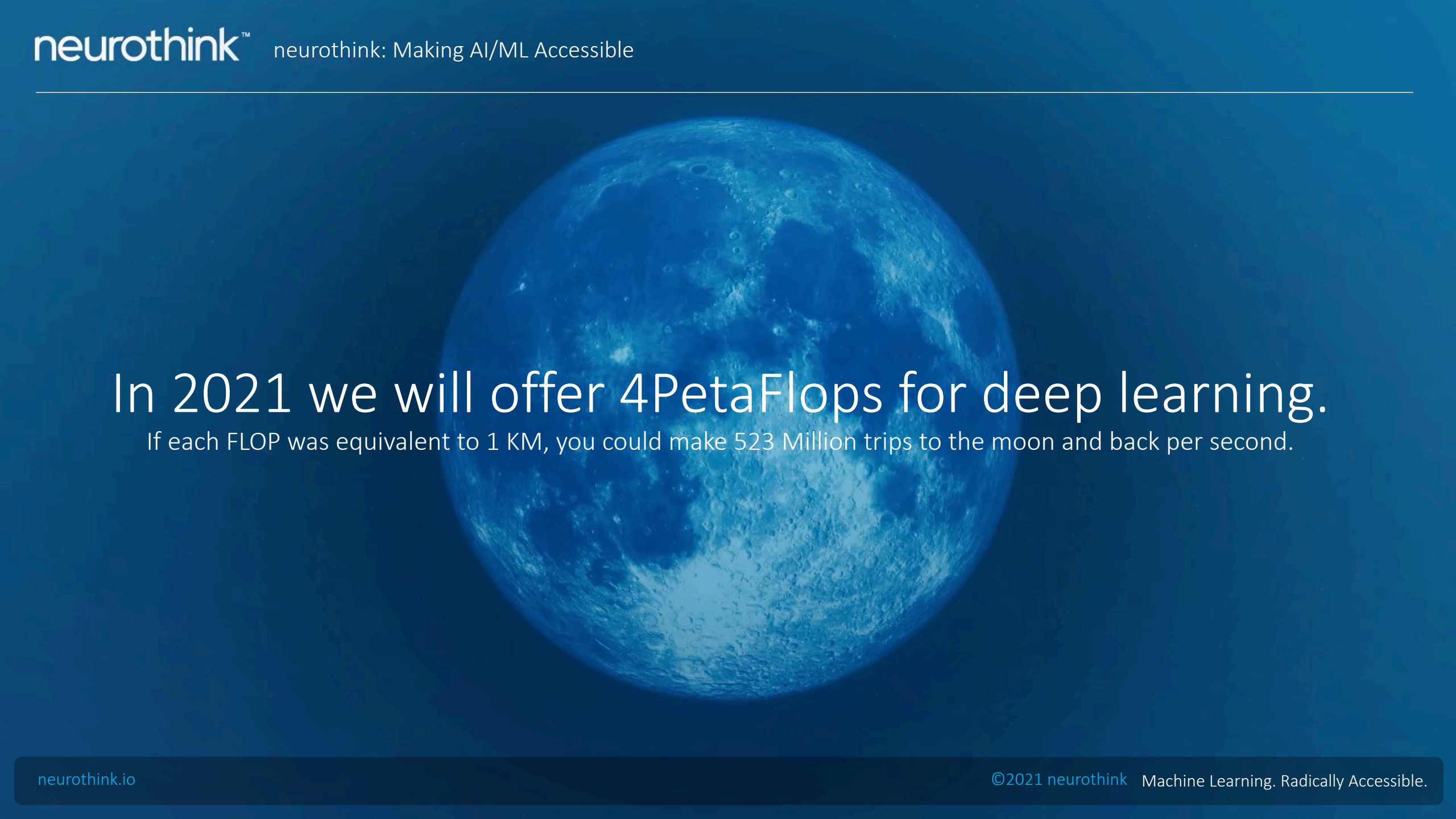

In 2021 we will offer 4PetaFlops for deep learning.

If each FLOP was equivalent to 1 KM, you could make 523 Million trips to the moon and back per second.

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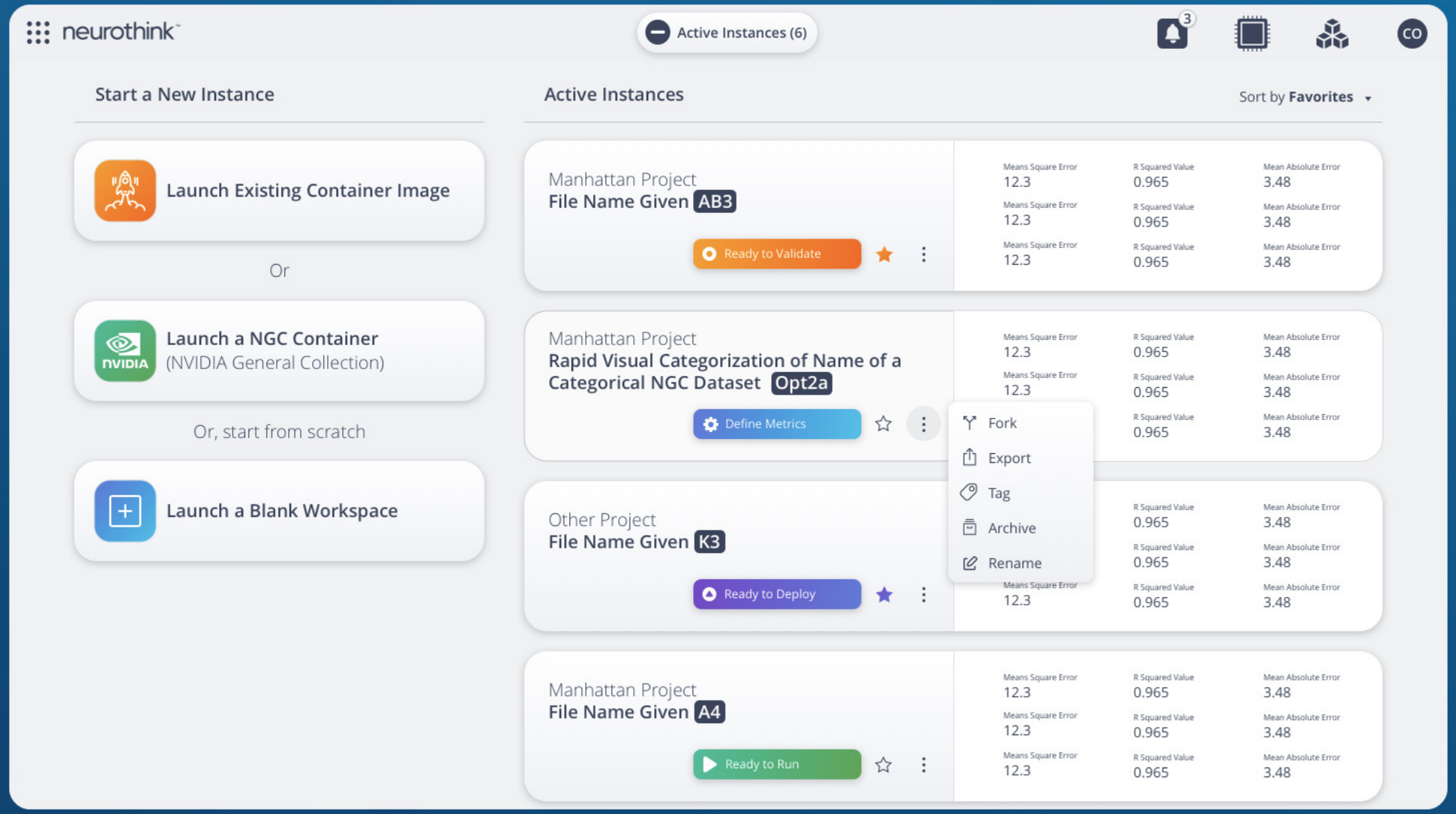
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Active Instances (6)
3
CO
Start a New Instance
Launch Existing Container Image
Or
Launch a NGC Container
(NVIDIA General Collection)
Or, start from scratch
Launch a Blank Workspace
Active Instances
Sort by Favorites
Manhattan Project
File Name Given AB3
Ready to Validate
Means Square Error 12.3
R Squared Value 0.965
Mean Absolute Error 3.48
Manhattan Project
Rapid Visual Categorization of Name of a Categorical NGC Dataset Opt2a
Define Metrics
Fork
Export
Tag
Archive
Rename
Other Project
File Name Given K3
Ready to Deploy
Manhattan Project
File Name Given A4
Ready to Run

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