Artificial Intelligence: the Human Impact & Responsibility

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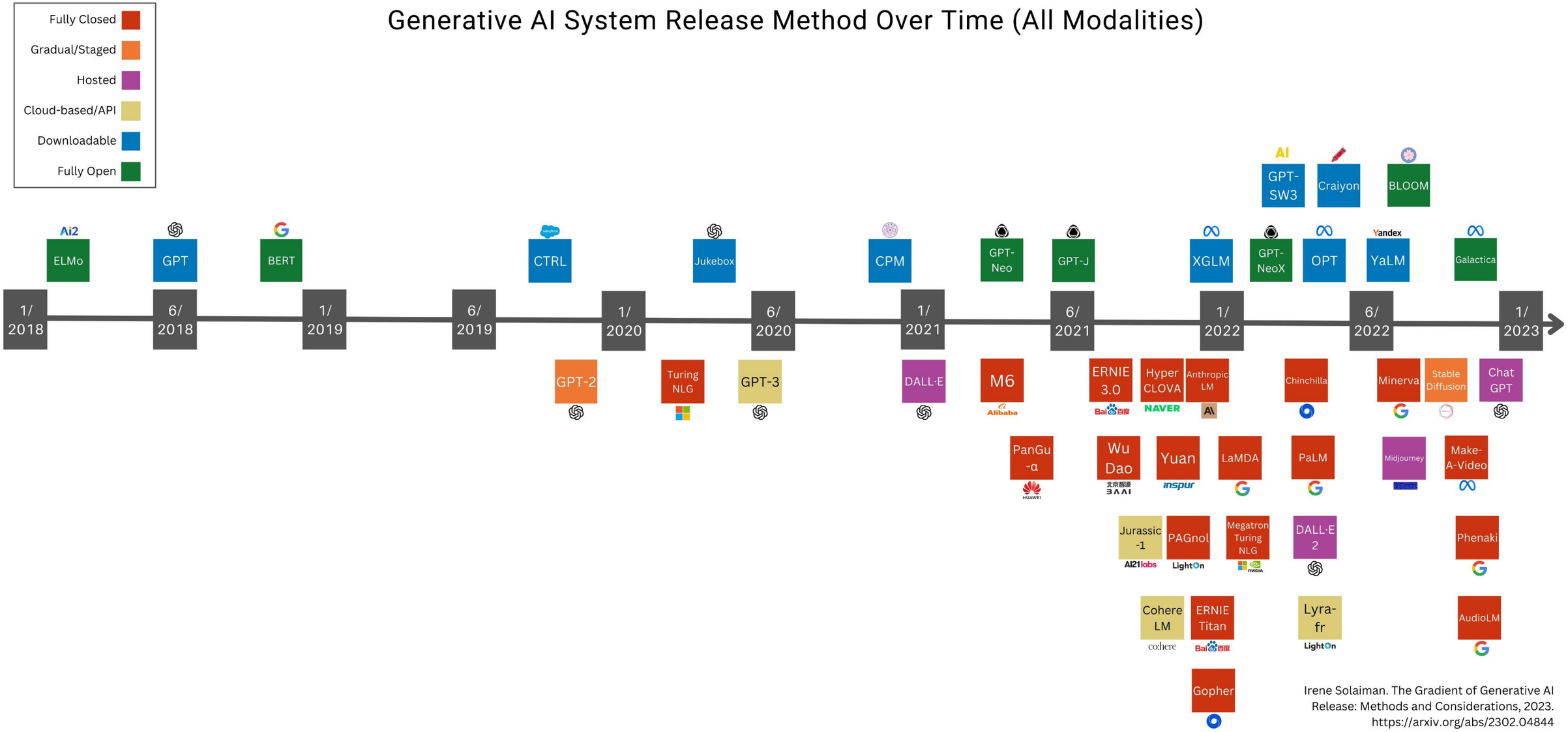
Inflection point

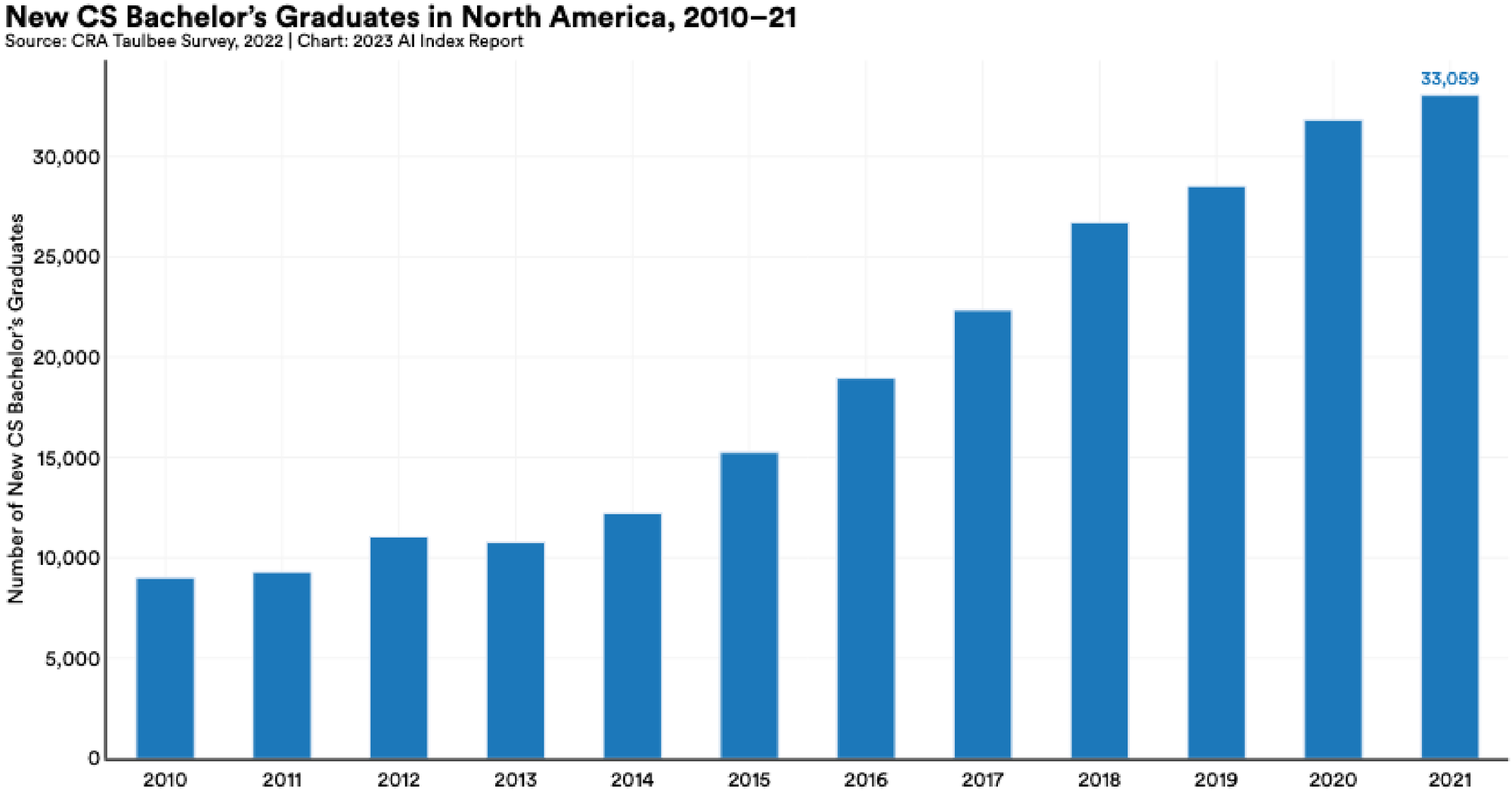
Sharp increase in the number of generative AI systems



Irene Solaiman. The Gradient of Generative AI Release: Methods and Considerations, 2023. https://arxiv.org/abs/2302.04844

Solaiman. axXiv (2023)

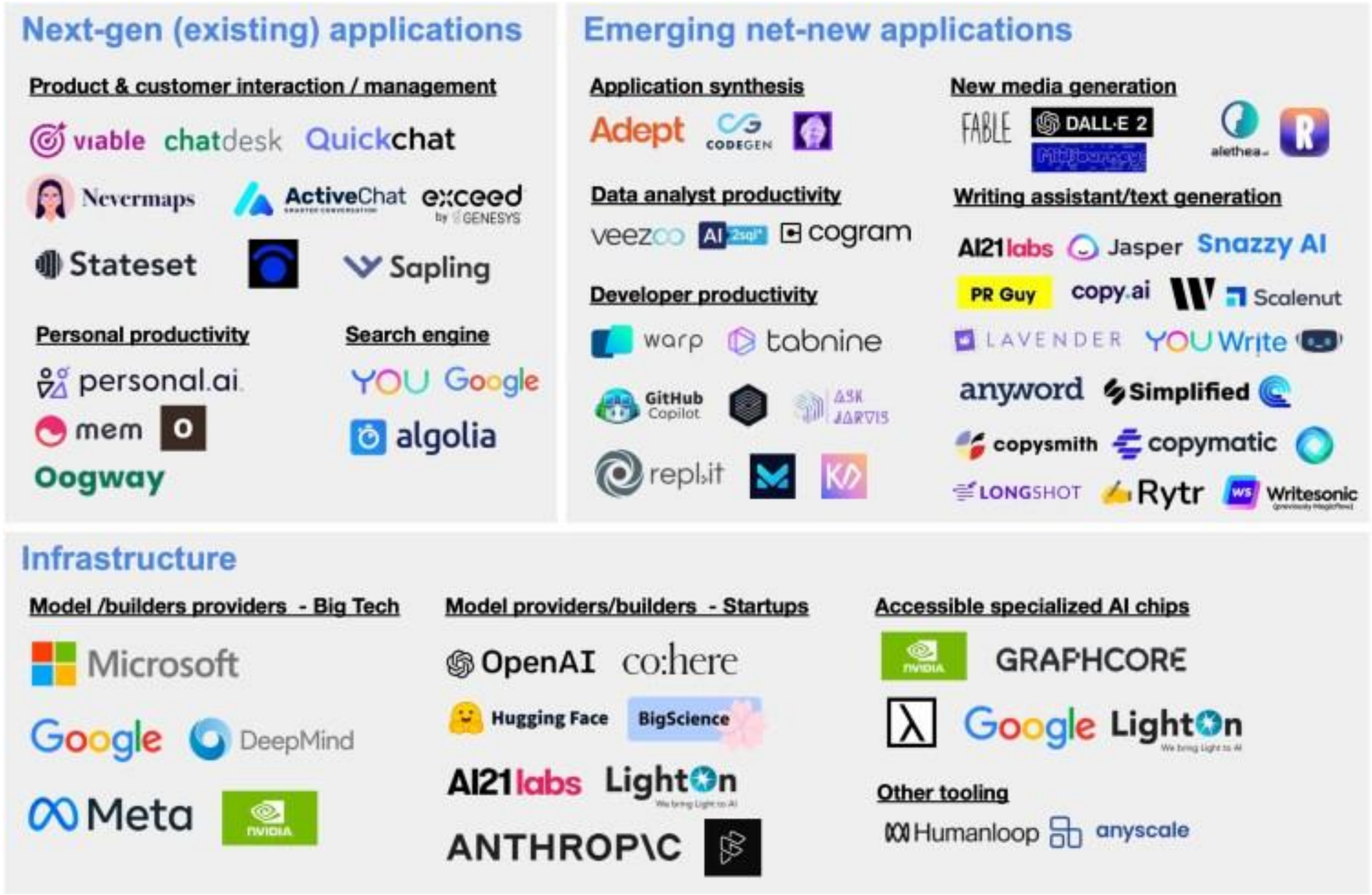
Number of new CS bachelor's graduates grew nearly four times in the past decade in North America



Maslej et al. Stanford HAI (2023)

Large Language Models are just the beginning

Growing ecosystem of large language models



So and Lorica. Gradient Flow (2022)

Language is just the beginning, more is coming

3D Vision

Pose Estimation

Instance Segmentation

DALL-E

an espresso machine that makes coffee from human souls, artstation

panda mad scientist mixing sparkling chemicals, artstation

Mildenhall et al. NeRF, ECCV, 2020; Teed & Deng, NeurIPS 2021; Cao et al. CVPR 2017; He et al. ICCV, 2017; OpenAI's DALL-E

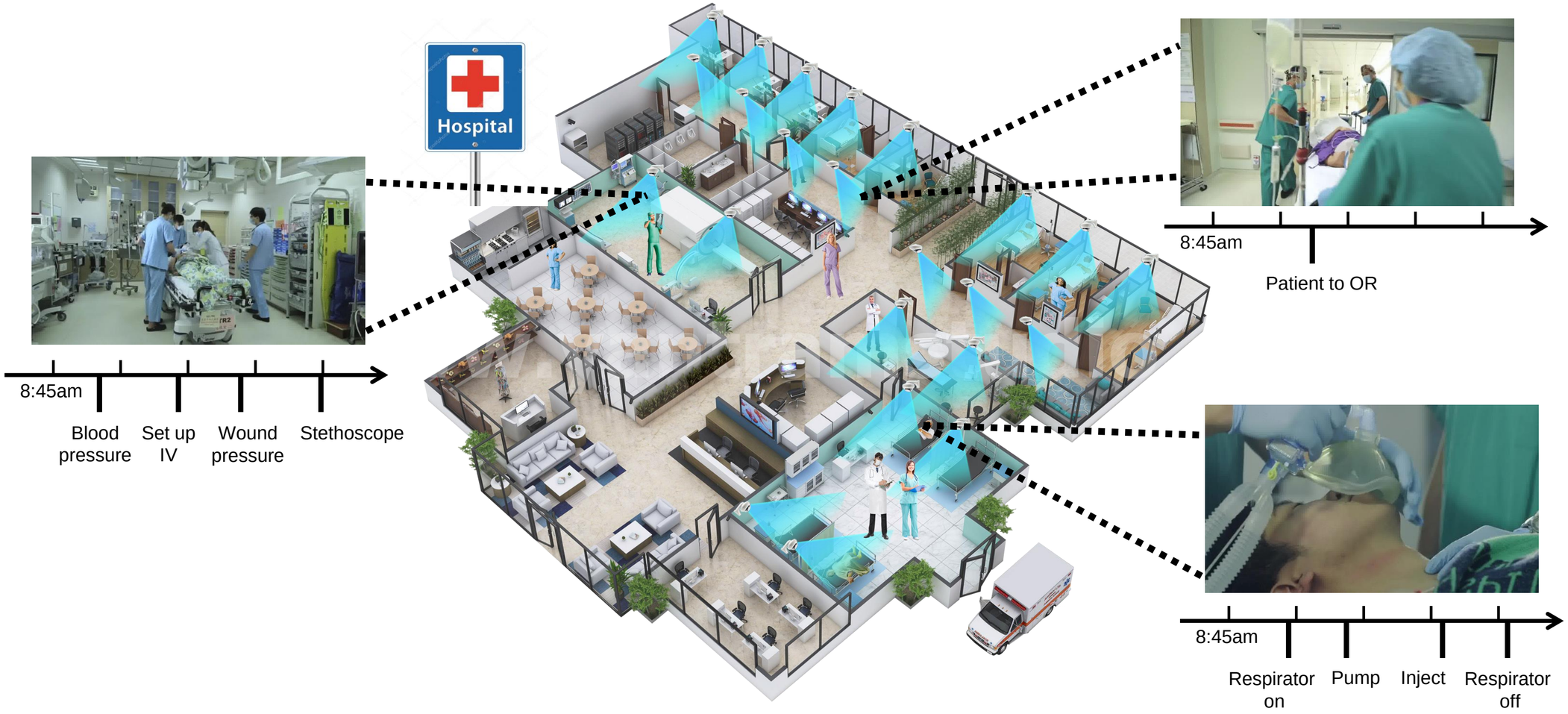
Language is just the beginning, more is coming

Google: PaLM-E: An Embodied Multimodal Language Model

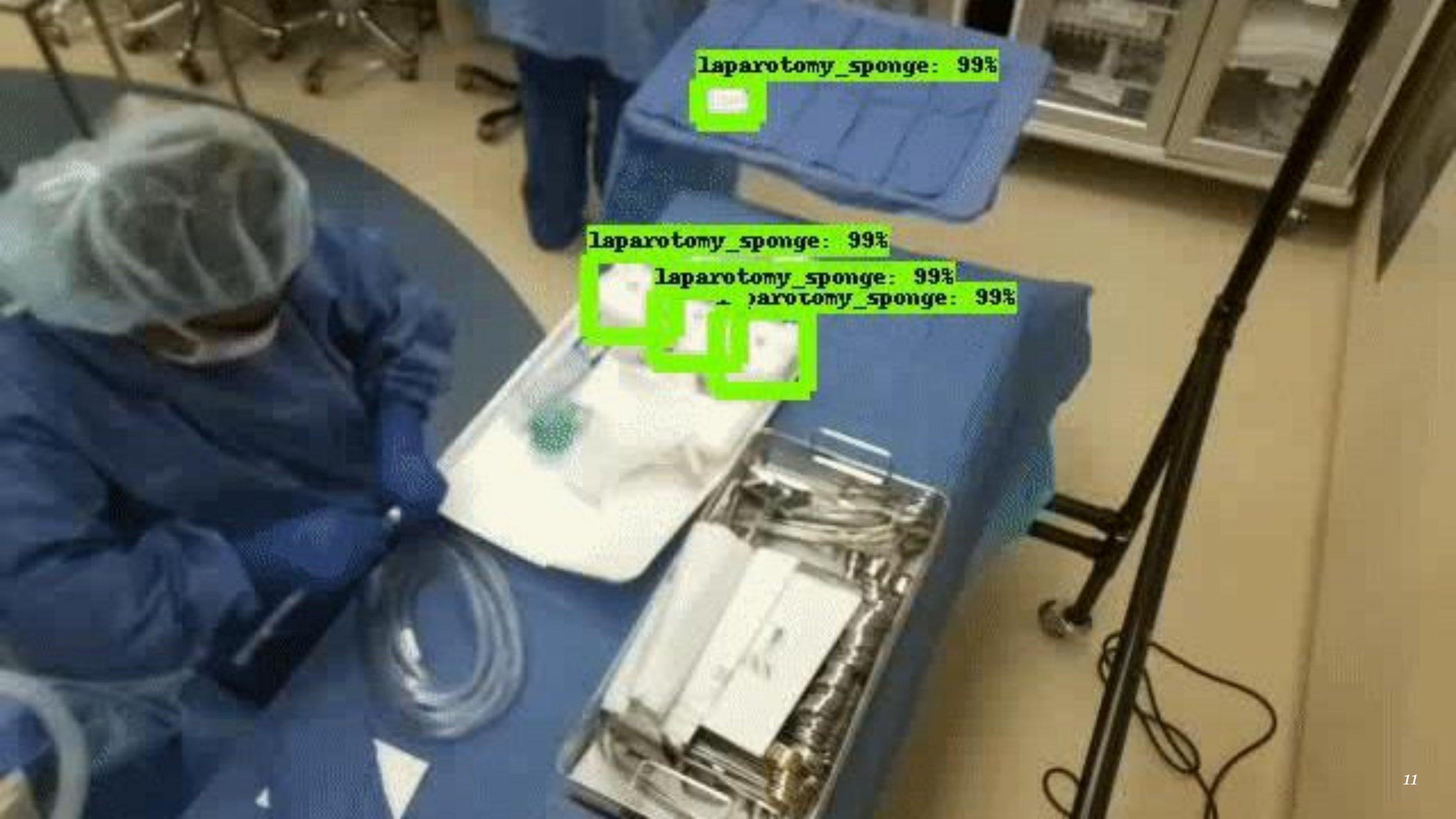
AI can augment humans

Ambient Intelligence for Healthcare

Use smart sensors and ML algorithm to glean health-critical insights



Yeung, Downing, Fei-Fei, Milstein. New England Journal of Medicine (2018); Haque, Milstein, Fei-Fei. Nature (2020)


laparotomy_sponge: 99%
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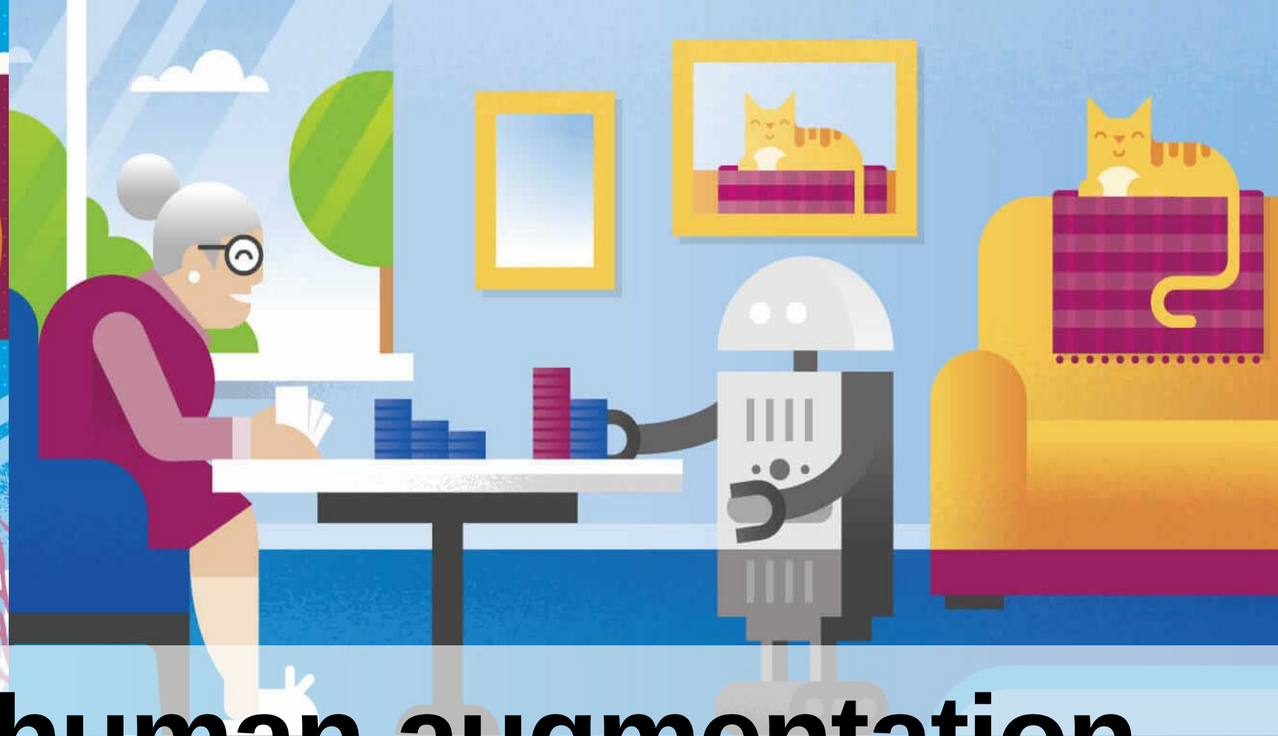
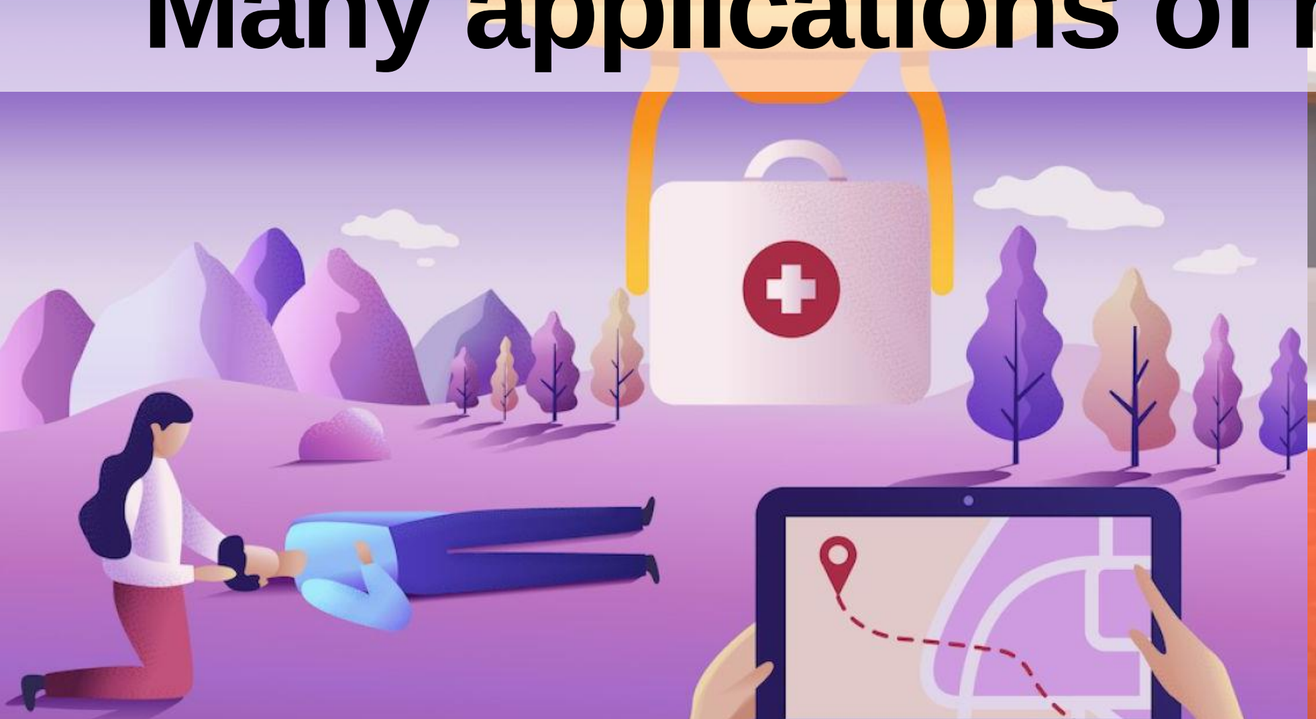
AI for Aging in place

- Predict and Prevent Unsafe Events
- Monitor Patients with Mild Symptoms
- Manage Chronic Conditions

Bedside Computer Vision - Moving Artificial Intelligence from Driver Assistance to Patient Safety, Yeung et al., New England Journal of Medicine (NEJM) 2018



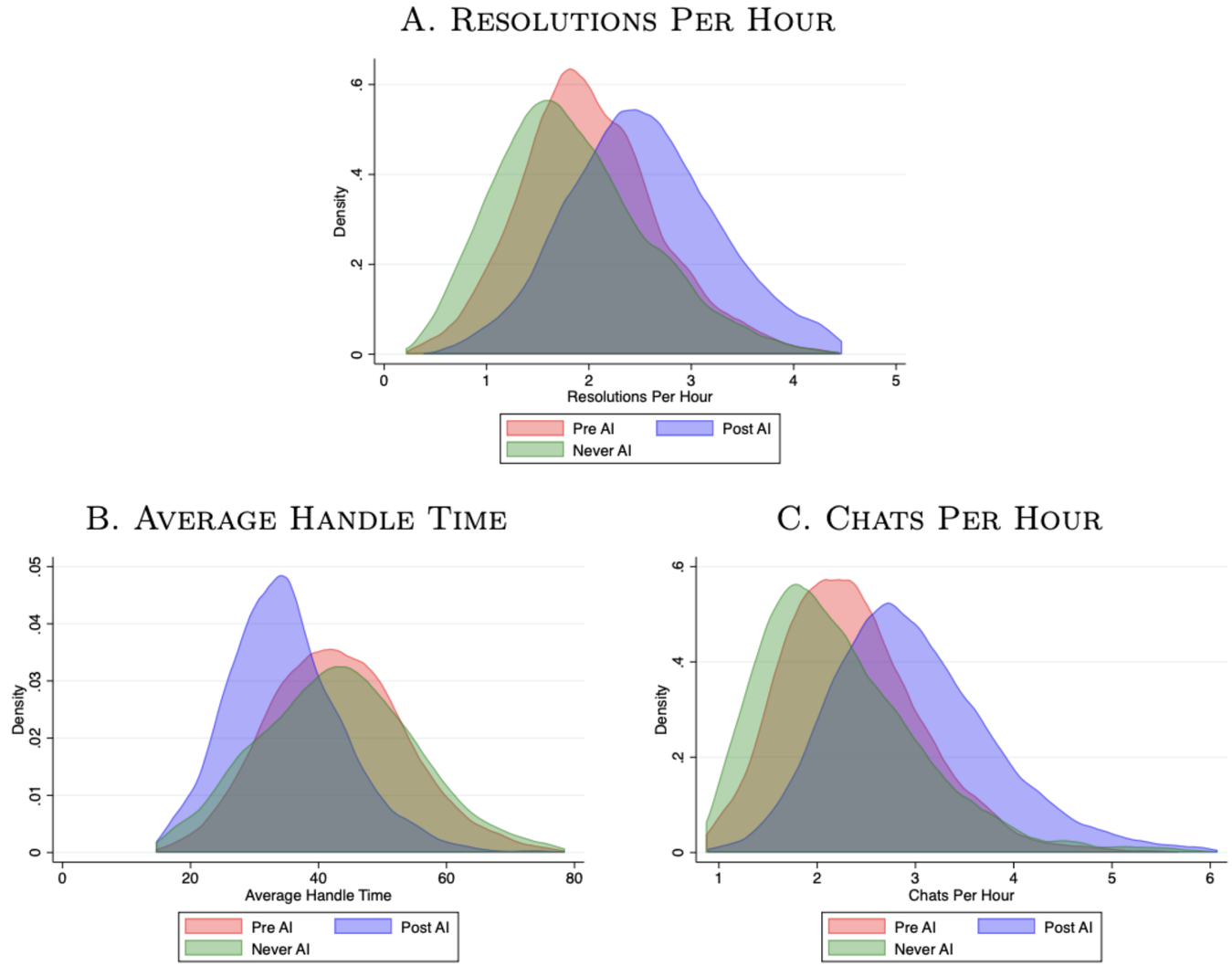
Many applications of human augmentation



Profound social impact

Generative AI boosts worker productivity by 14% in first real-world study

FIGURE 3: RAW PRODUCTIVITY DISTRIBUTIONS, BY AI TREATMENT



Brynjolfsson et al. National Bureau of Economic Research (2023)

Generative AI systems continue to perpetuate bias

Midjourney when prompted
“someone who is intelligence”

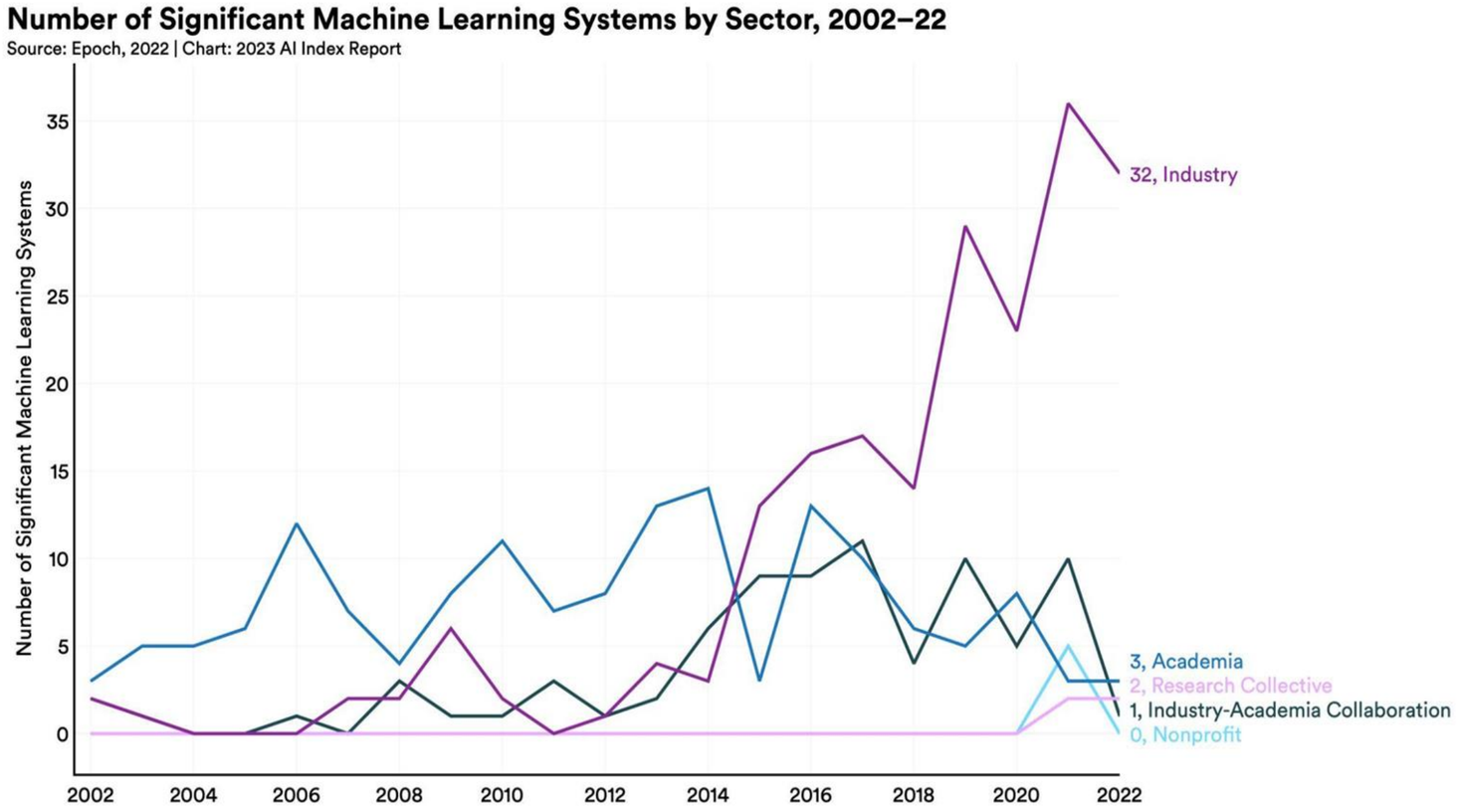
Stable Diffusion when prompted
“Assertive, CEO”

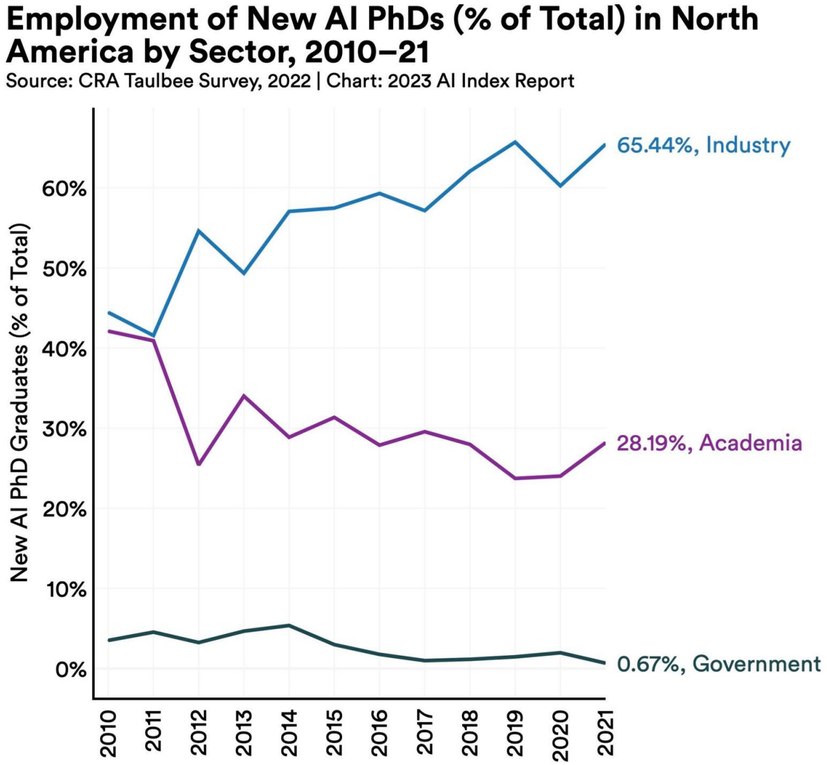
Building Trustworthy and Responsible AI

Ethics Guidelines for Trustworthy AI. European Commission (2018)

Policy: ensuring a better tomorrow

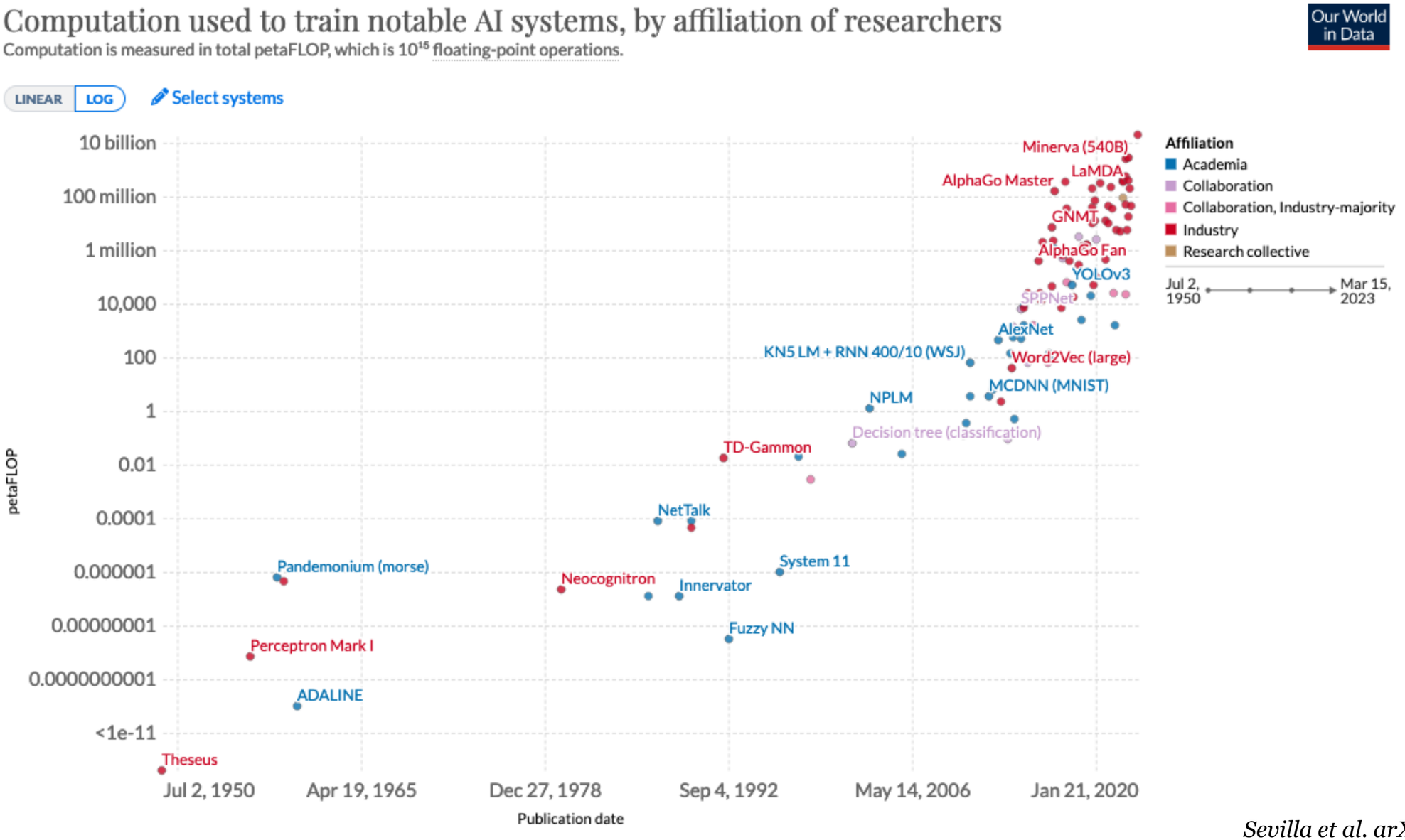
Industry dominates AI talent acquisition and development





Maslej et al. Stanford HAI (2023)

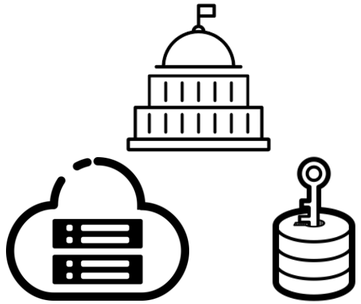
Steep rise of compute demand



Sevilla et al. arXIV (2022)

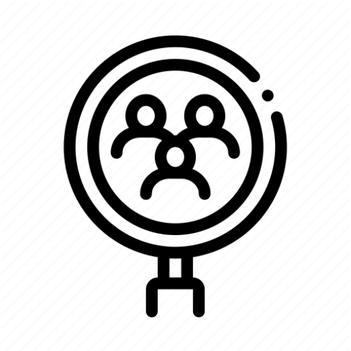
National AI Research Resource

ACCESS

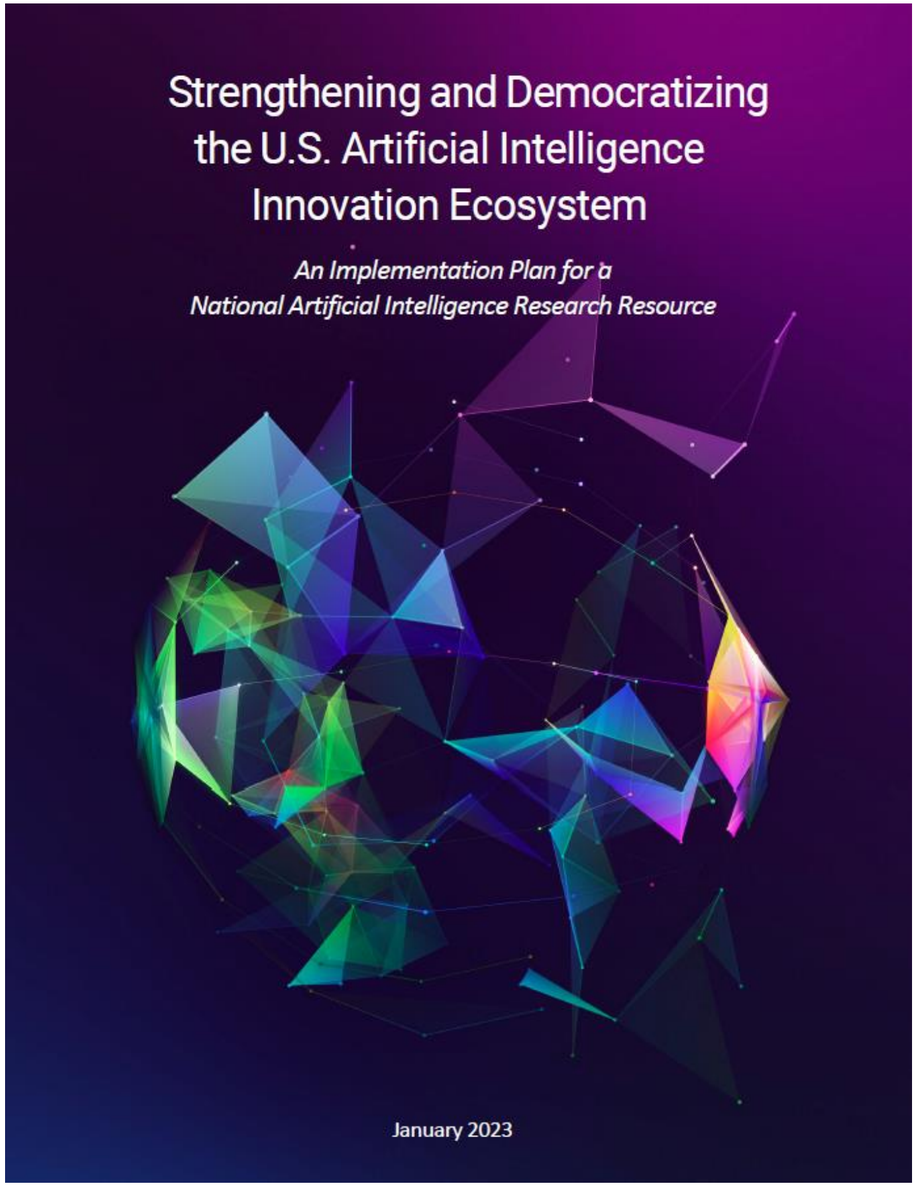


Public computational and data resources, testbeds, and more.

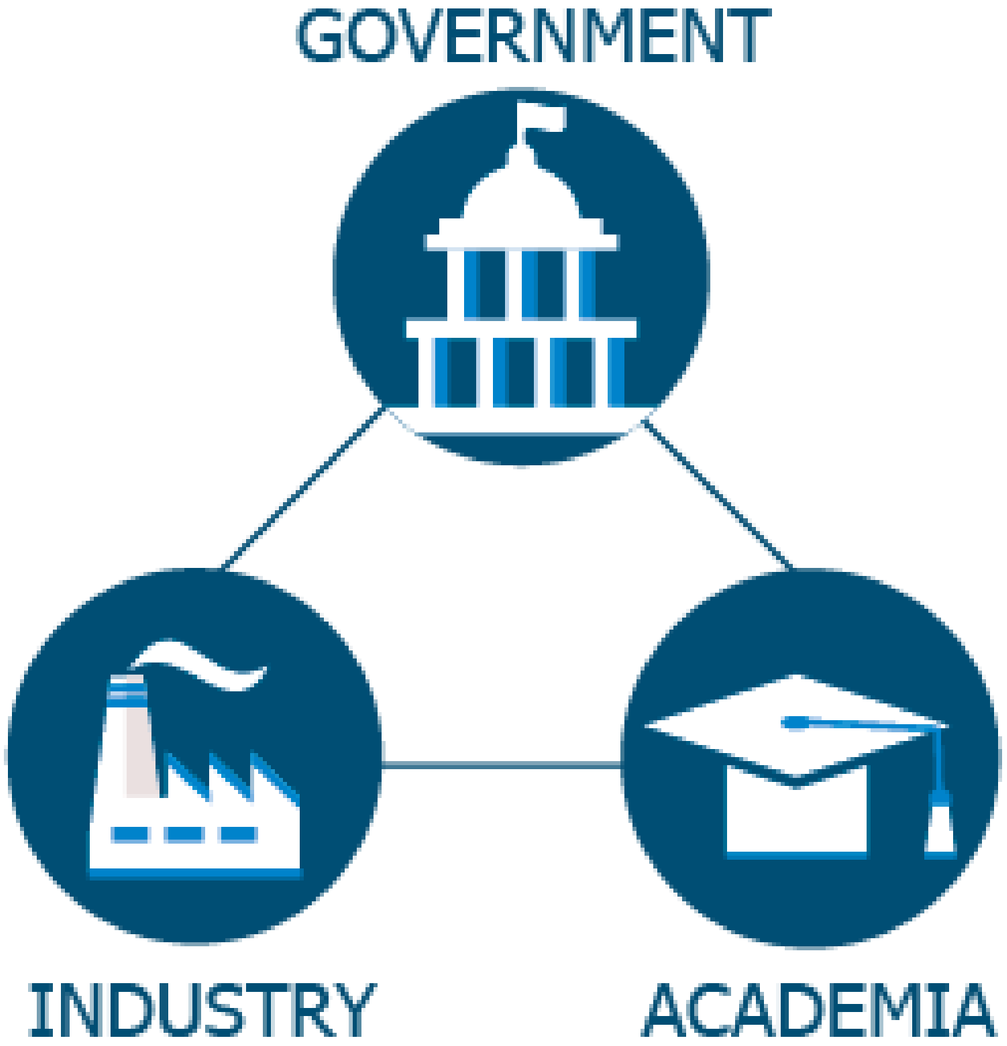
ELIGIBILITY



For academic researchers, non-profits, government agencies, federally-funded startups, etc.



Rejuvenating a healthy AI ecosystem between government, academia, and industry



AI profoundly human.

The responsibility is on us.