

poloclub.github.io/#cse6242

CSE6242/CX4242: **Data** & **Visual** Analytics

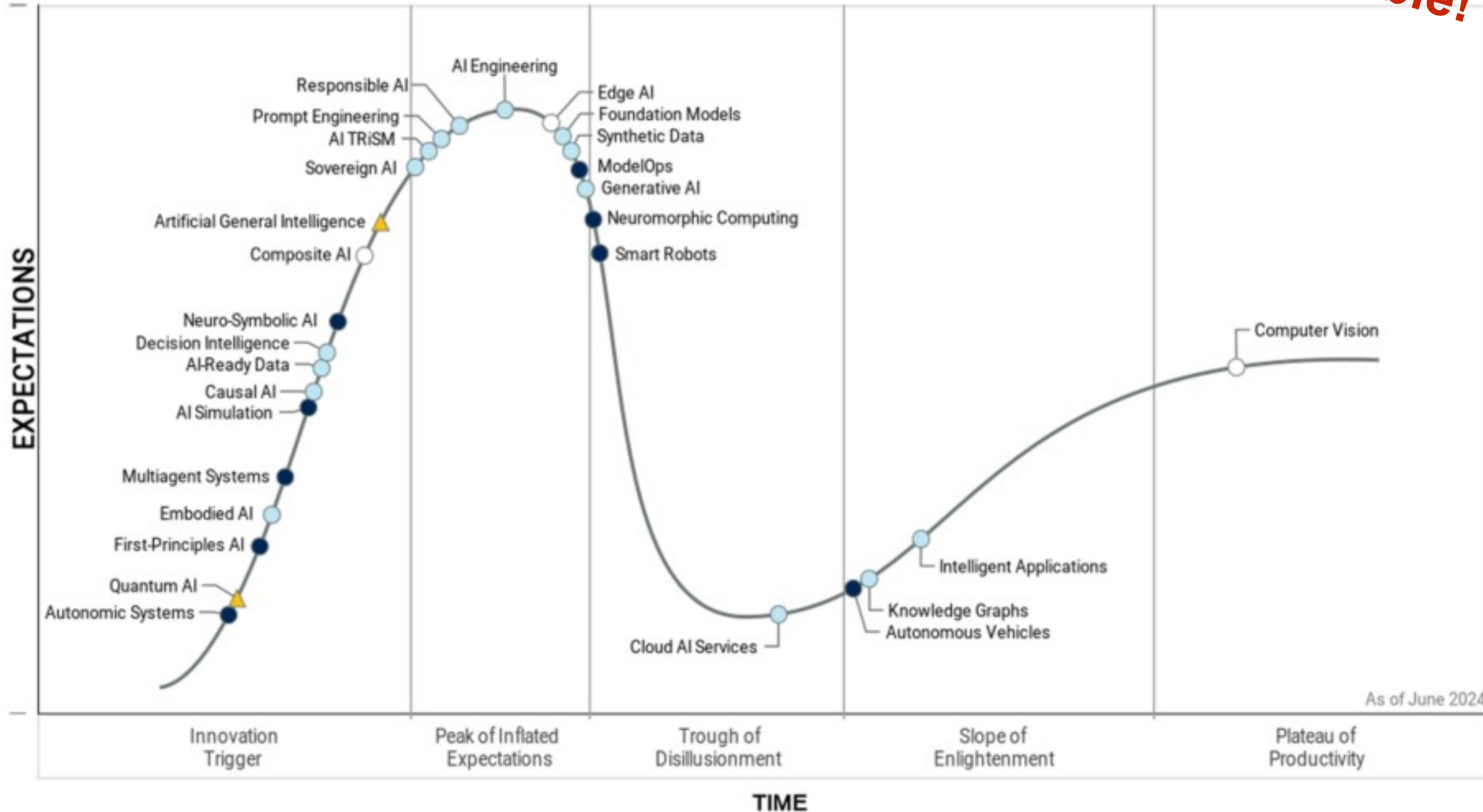
Data Science Buzzwords

Duen Horng (Polo) Chau

Professor, College of Computing
Associate Director, MS Analytics
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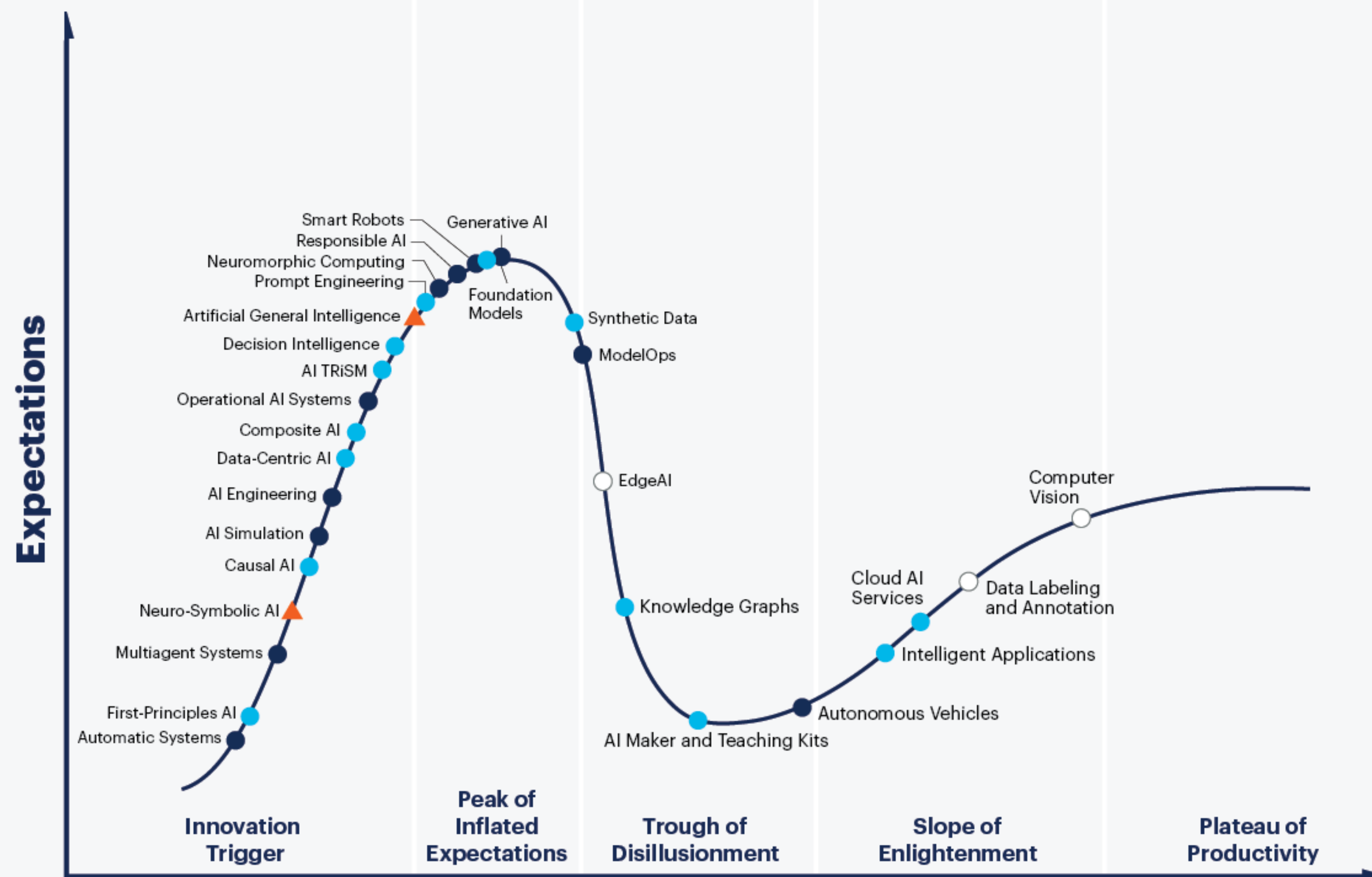
Hype Cycle for Artificial Intelligence, 2024

Debatable!



Plateau will be reached: ○ <2 yrs. ● 2-5 yrs. ● 5-10 yrs. ▲ >10 yrs. ⊗ Obsolete before plateau

Hype Cycle for Artificial Intelligence, 2023 *Debatable!*



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● 2 to 5 years

● 5 to 10 years

▲ more than 10 years

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As of July 2023

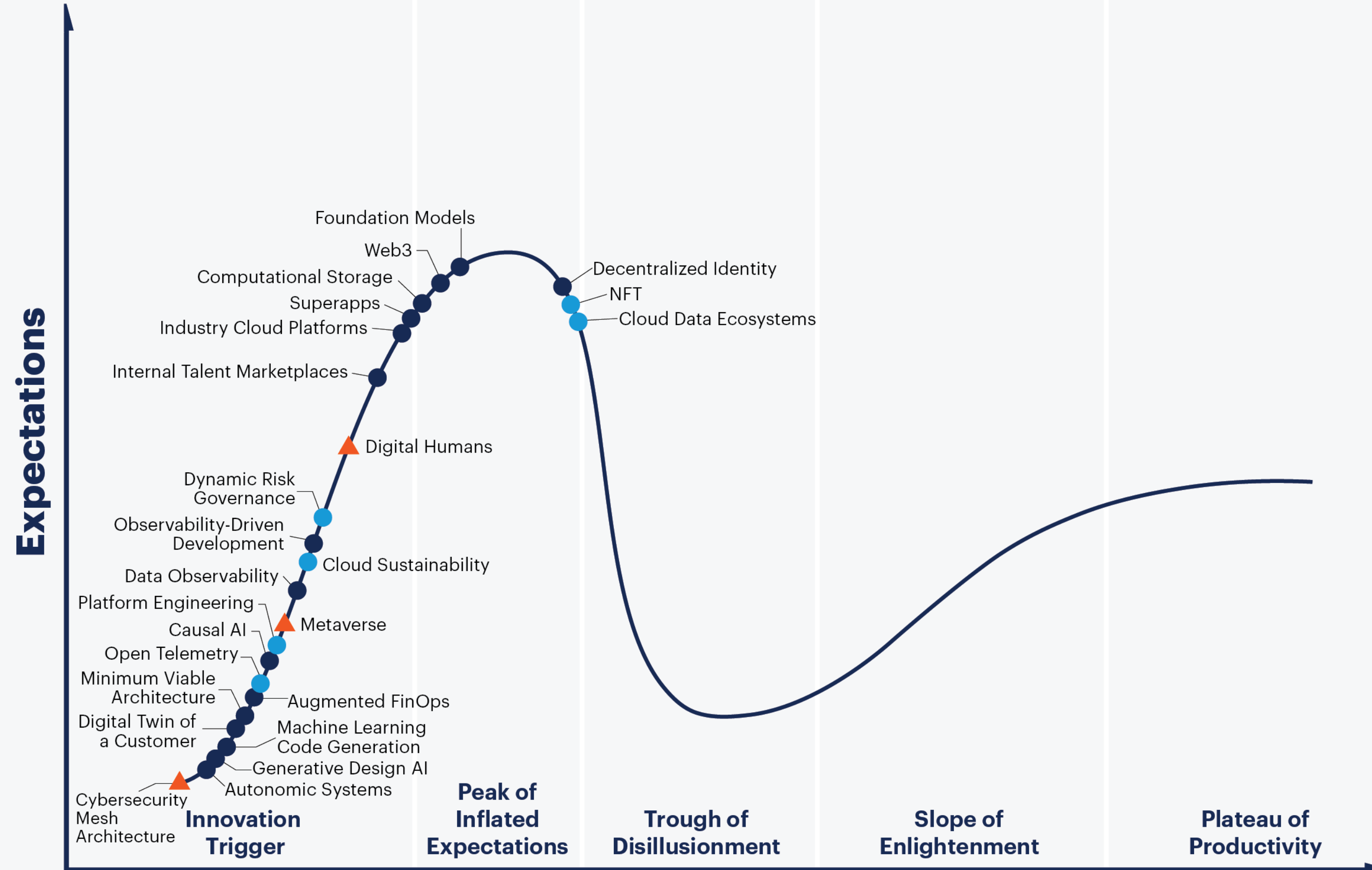
[gartner.com](https://www.gartner.com)

Source: Gartner
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Gartner

Hype Cycle for Emerging Tech, 2022

Debatable!



Plateau will be reached:

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- 5 to 10 years
- ▲ More than 10 years
- ⊗ Obsolete before plateau

As of August 2022

[gartner.com](https://www.gartner.com)

Polo's Motto

**Keep learning new things and be
cautiously optimistic!**

“Artificial Intelligence”

Self-Driving Taxis Hit the Streets of Singapore

by Kirsten Korosec @kirstenkorosec AUGUST 25, 2016, 4:09 AM EDT



Retrieved from: <http://www.theaustralian.com.au/business/wall-street-journal/selfdriving-taxi-hit-the-road-in-singapore/news-story/73116ddc2e7c043578cb7b87d8264f5b>

Google AI beats Go world champion again to complete historic 4-1 series victory

Posted Mar 15, 2016 by Jon Russell (@jonrussell)



Next Story



The battle between Google's artificial intelligence and Go world champion Lee Sedol concluded today after the former (AlphaGo) triumphed to win the five-game series 4-1.

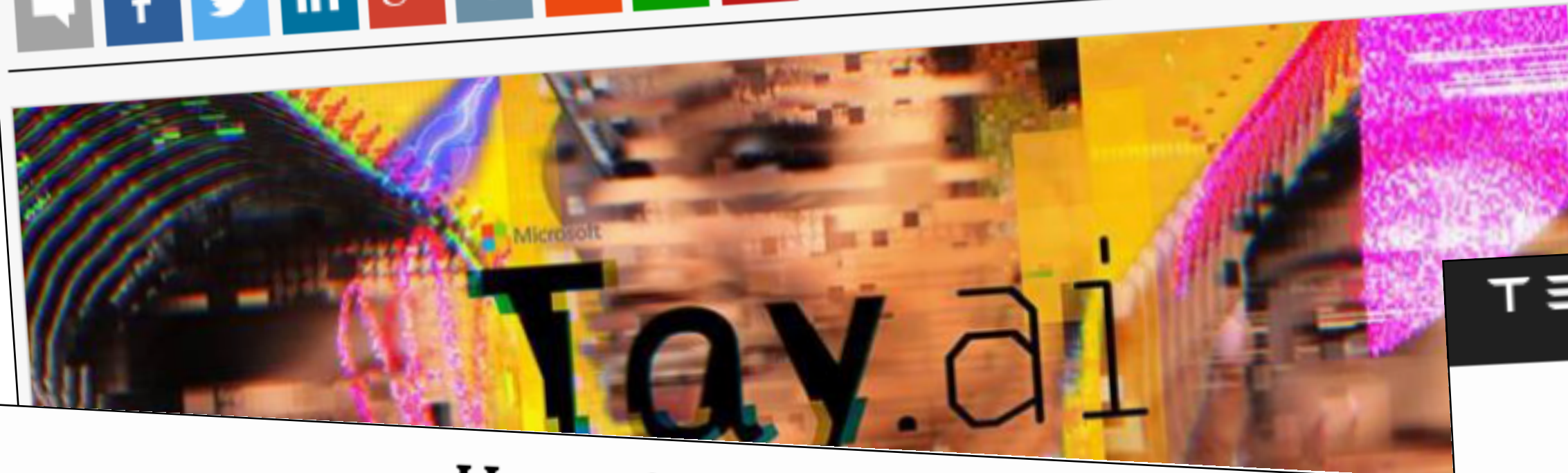
Retrieved from: <https://techcrunch.com/2016/03/15/google-ai-beats-go-world-champion-again-to-complete-historic-4-1-series-victory/>

Microsoft silences its new A.I. bot Tay, after Twitter users teach it racism [Updated]

Posted Mar 24, 2016 by Sarah Perez (@sarahintampa)



Next Story



How a Self-Driving Uber Killed a Pedestrian in Arizona

By TROY GRIGGS and DAISUKE WAKABAYASHI UPDATED MARCH 21, 2018

A woman was [struck and killed](#) on Sunday night by an autonomous car operated by Uber in Tempe, Ariz. It was believed to be the first pedestrian death associated with self-driving technology.

What We Know About the Accident



<https://www.nytimes.com/interactive/2018/03/20/us/self-driving-uber-pedestrian-killed.html>

https://www.tesla.com/en_GB/blog/tragic-loss?redirect=no

“Neither Autopilot nor the driver noticed the white side of the tractor trailer against a brightly lit sky, so the brake was not applied”

TESLA

MODEL S MODEL X MODEL 3 ENERGY

Blog Videos Press

A Tragic Loss

The Tesla Team • 30 June 2016

We learned yesterday evening that NHTSA is opening a preliminary evaluation into the performance of Autopilot during a recent fatal crash that occurred in a Model S. This is the first known fatality in just over 130 million miles where Autopilot was activated. Among all vehicles in the US, there is a fatality every 94 million miles. Worldwide, there is a fatality approximately every 60 million miles. It is important to emphasize that the NHTSA action is simply a preliminary evaluation to determine whether the system worked according to expectations.

Following our standard practice, Tesla informed NHTSA about the incident immediately. What we know is that the vehicle was on a divided highway with

We're in the 3rd wave of "AI" boom.

Two **"AI winters"** before.

https://en.wikipedia.org/wiki/History_of_artificial_intelligence

Good Read about AI:
White House Report

Preparing for The Future of Artificial Intelligence

https://obamawhitehouse.archives.gov/sites/default/files/whitehouse_files/microsites/ostp/NSTC/preparing_for_the_future_of_ai.pdf

The Current State of AI

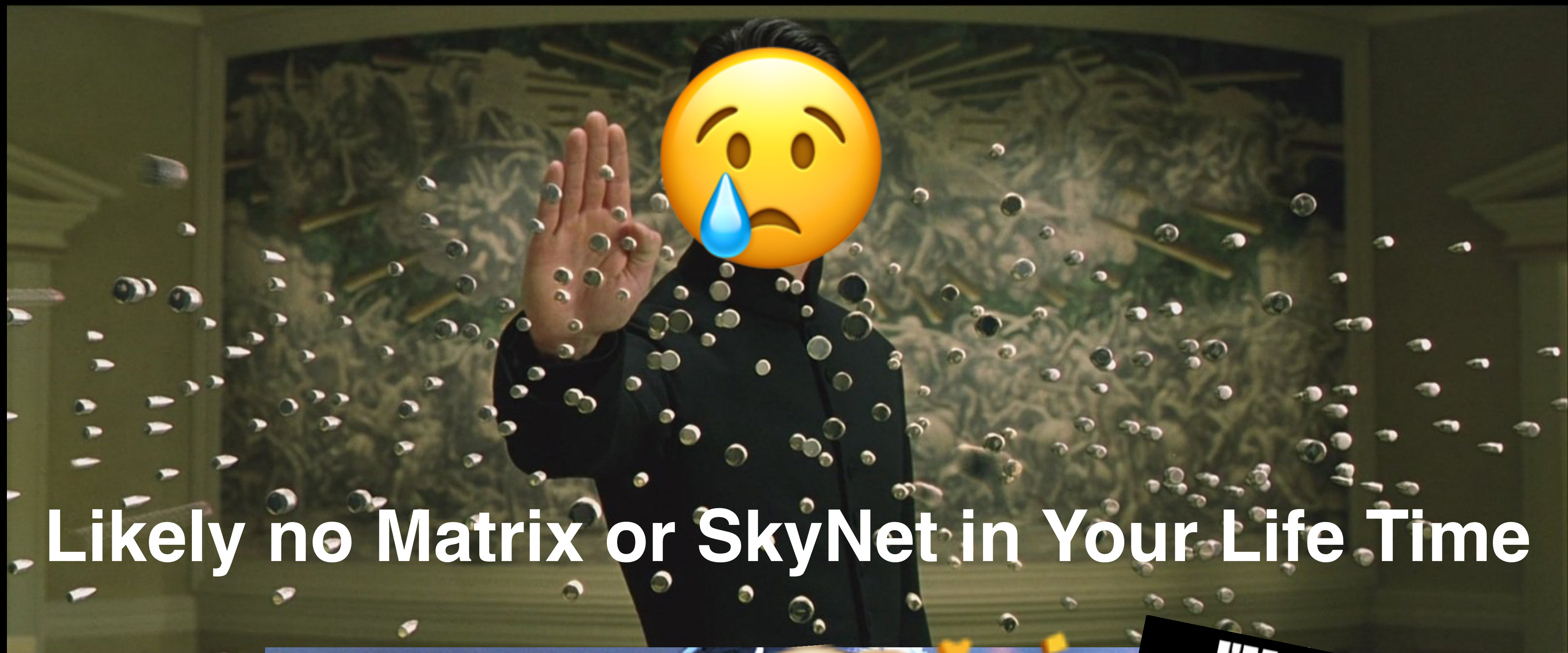
Remarkable progress has been made on what is known as **Narrow AI**, which addresses specific application areas such as playing strategic games, language translation, self-driving vehicles, and image recognition.

Narrow AI underpins many commercial services such as trip planning, shopper recommendation systems, and ad targeting, and is finding important applications in medical diagnosis, education, and scientific research. These have all had significant societal benefits and have contributed to the economic vitality of the Nation.

The Current State of AI

General AI (sometimes called Artificial General Intelligence, or AGI) refers to a notional future AI system that exhibits apparently intelligent behavior at least as advanced as a person across the full range of cognitive tasks.

A broad chasm seems to separate today's Narrow AI from the much more difficult challenge of General AI. Attempts to reach General AI by expanding Narrow AI solutions have made little headway over many decades of research. The current consensus of the private-sector expert community, with which the NSTC Committee on Technology concurs, is that **General AI will not be achieved for at least decades.**"



Likely no Matrix or SkyNet in Your Life Time



TRANSFORMER EXPLAINER

Interactive Learning of Text-Generative Models

Aeree Cho, Grace C. Kim, Alexander Karpekov, Alec Helbling,
Zijie J. Wang, Seongmin Lee, Benjamin Hoover, Polo Chau

 Went Viral. VIS'24 Poster

🔍 DIFFUSION EXPLAINER

Learn how Stable Diffusion transforms **your text prompt** into **image!**



Code



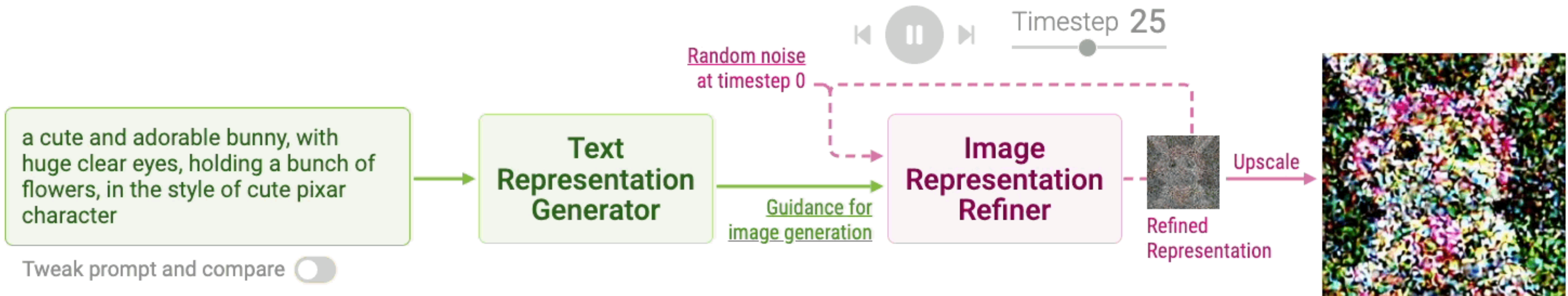
Paper



Video

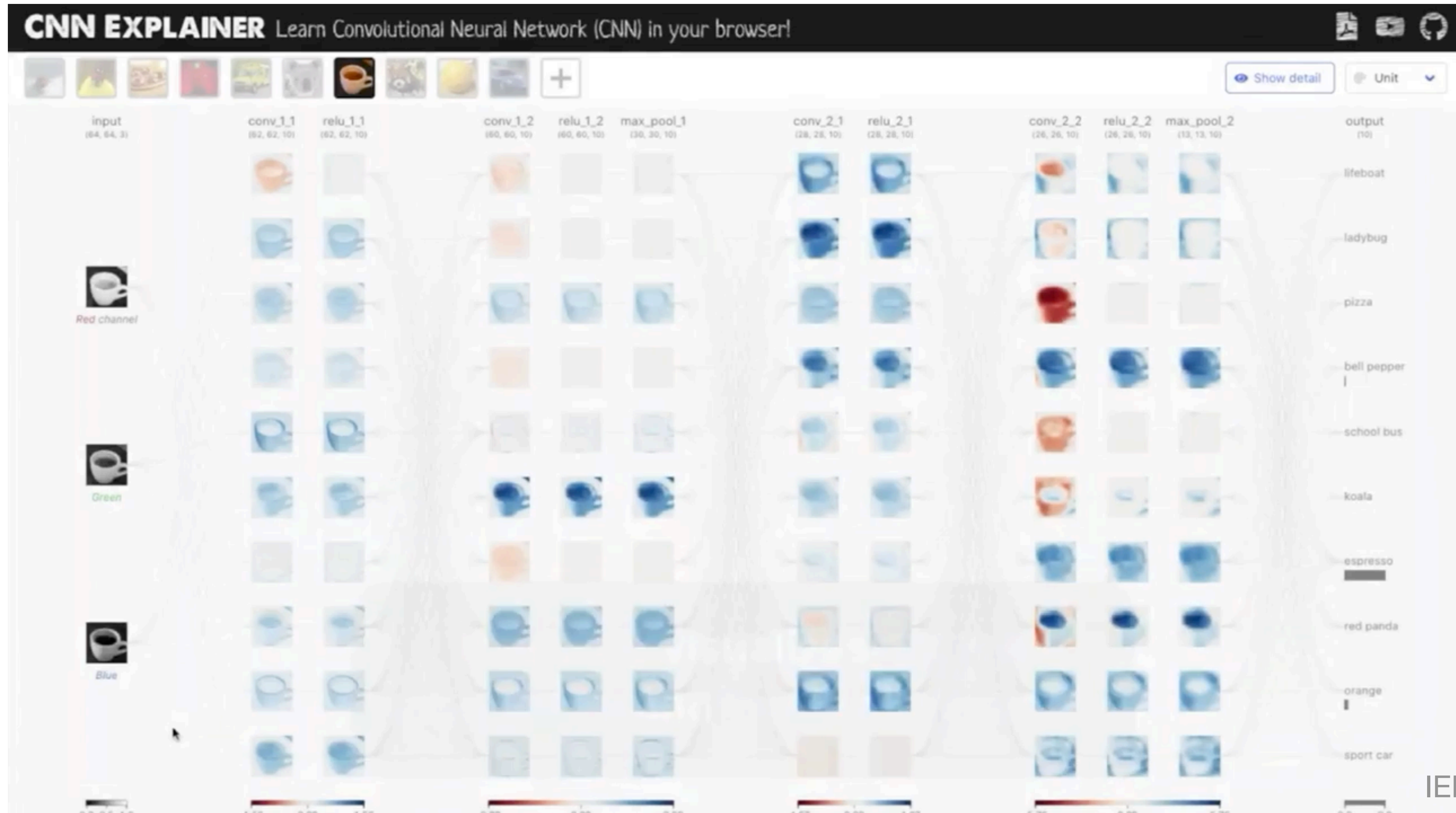


Blog



CNN Explainer Try at bit.ly/cnn-explainer

★ 7.9K GitHub Stars ❤️ 700 Likes 311K visitors, 200 countries



GAN Lab Try at bit.ly/gan-lab

Understanding Deep Generative Models via Interactive Experimentation

★ 1.4K GitHub Stars ❤️ 1.9K Likes 260K visitors, 190 countries

