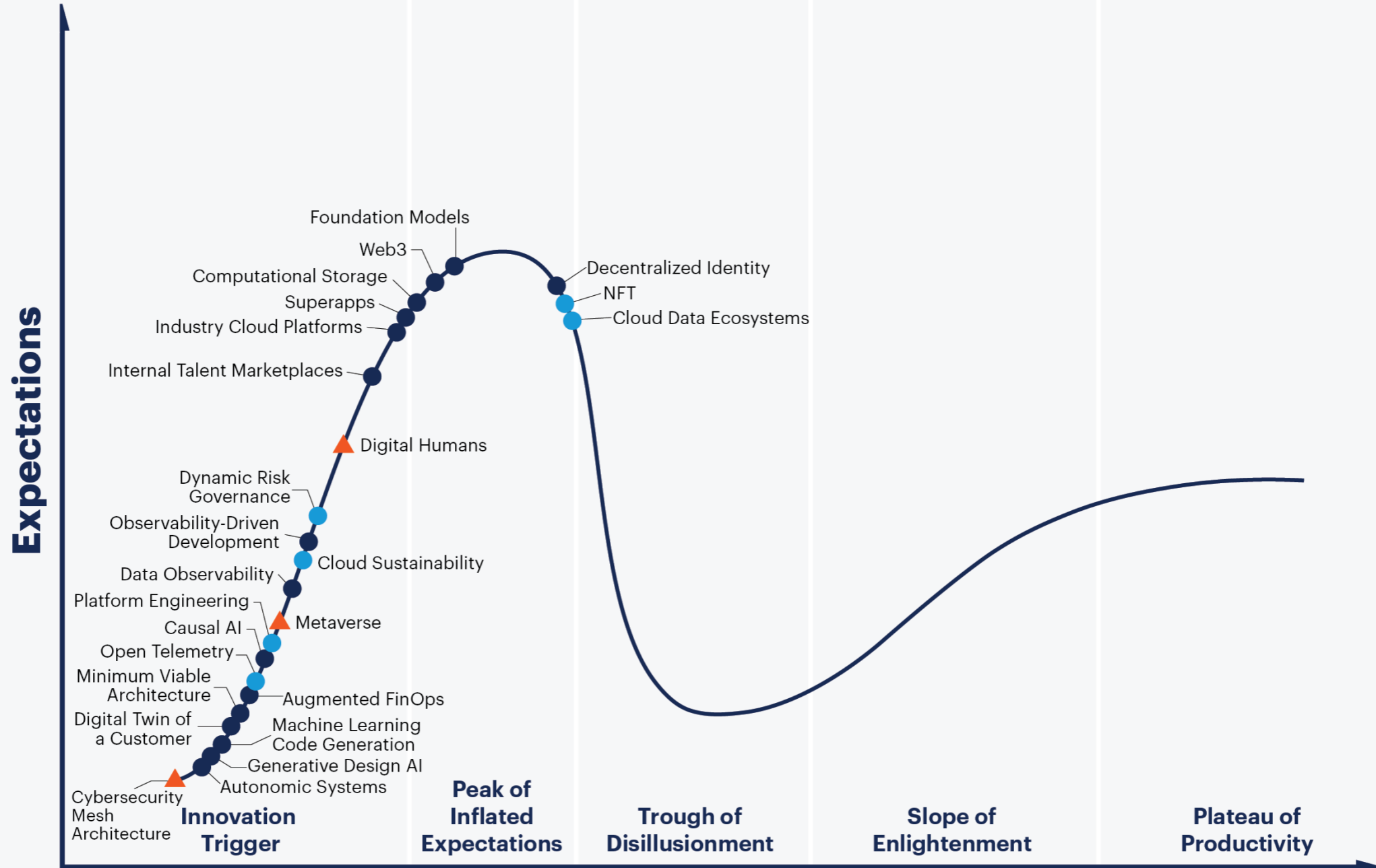CSE6242/CX4242: Data & Visual Analytics

Data Science Buzzwords

Duen Horng (Polo) Chau

Associate Professor, College of Computing
Associate Director, MS Analytics
Georgia Tech

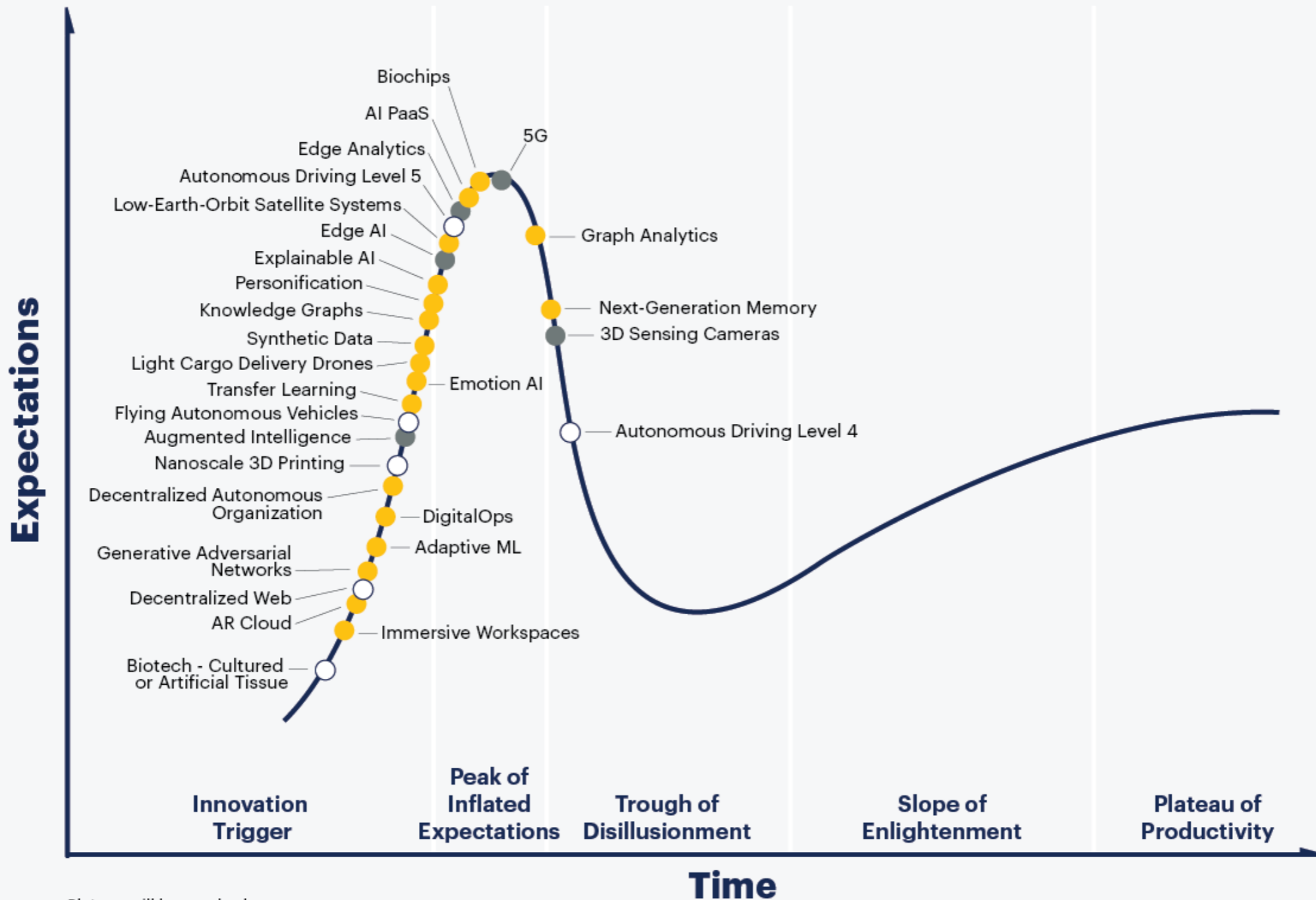# Hype Cycle for Emerging Tech, 2022

Debatable!

Expectations

- Foundation Models
- Web3
- Computational Storage
- Superapps
- Industry Cloud Platforms
- Internal Talent Marketplaces
- Decentralized Identity
- NFT
- Cloud Data Ecosystems
- Digital Humans
- Dynamic Risk Governance
- Observability-Driven Development
- Data Observability
- Cloud Sustainability
- Platform Engineering
- Causal AI
- Metaverse
- Open Telemetry
- Minimum Viable Architecture
- Augmented FinOps
- Digital Twin of a Customer
- Machine Learning Code Generation
- Generative Design AI
- Cybersecurity Mesh Architecture
- Autonomic Systems

Innovation Trigger — **Peak of Inflated Expectations** — **Trough of Disillusionment** — **Slope of Enlightenment** — **Plateau of Productivity**

Time

Plateau will be reached:

○ less than 2 years ● 2 to 5 years ● 5 to 10 years ▲ More than 10 years ⊗ Obsolete before plateau   As of August 2022

gartner.com

Source: Gartner
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Gartner®

Gartner Hype Cycle for Emerging Technologies, 2019

Debatable!

Expectations

Biochips

AI PaaS

Edge Analytics

Autonomous Driving Level 5

Low-Earth-Orbit Satellite Systems

Edge AI

Explainable AI

Personification

Knowledge Graphs

Synthetic Data

Light Cargo Delivery Drones

Transfer Learning

Flying Autonomous Vehicles

Augmented Intelligence

Nanoscale 3D Printing

Decentralized Autonomous Organization

Generative Adversarial Networks

Decentralized Web

AR Cloud

Biotech - Cultured or Artificial Tissue

5G

Graph Analytics

Next-Generation Memory

3D Sensing Cameras

Emotion AI

Autonomous Driving Level 4

DigitalOps

Adaptive ML

Immersive Workspaces

Innovation Trigger	Peak of Inflated Expectations	Trough of Disillusionment	Slope of Enlightenment	Plateau of Productivity

Time

Plateau will be reached:
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As of August 2019

gartner.com/SmarterWithGartner

Gartner

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

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.

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

"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
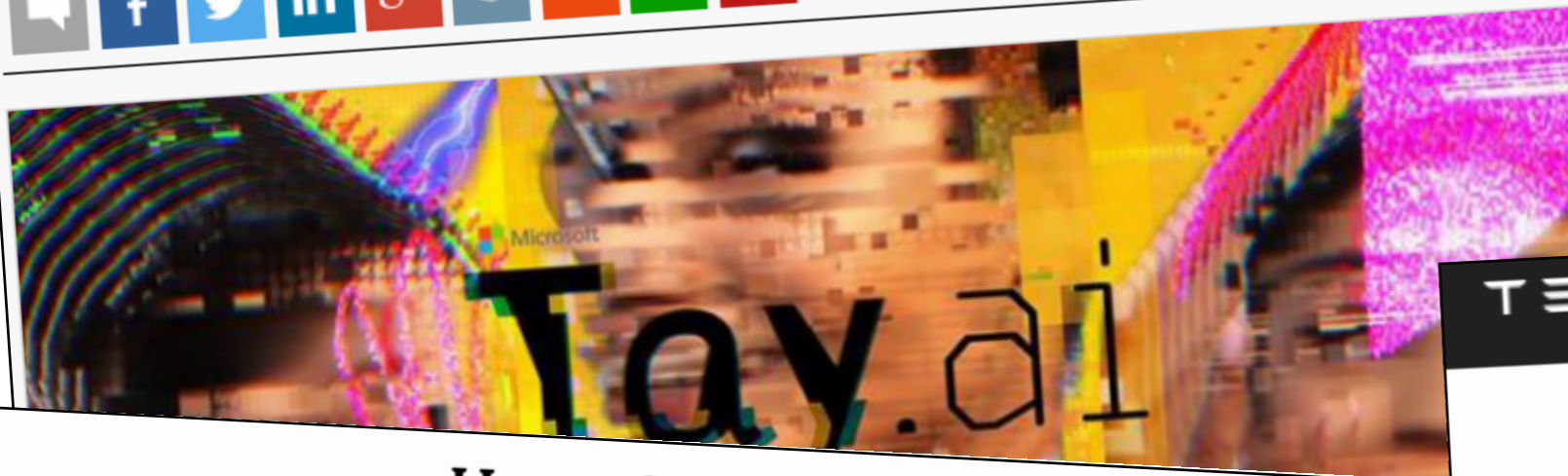
How a Self-Driving Uber Killed a Pedestrian in Arizona

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

A Tragic Loss

The Tesla Team · 30 June 2016

We learned yesterday evening that NHTSA is opening a prelim performance of Autopilot during a recent fatal crash that occu the first known fatality in just over 130 million miles where Aut Among all vehicles in the US, there is a fatality every 94 million a fatality approximately every 60 million miles. It is important t NHTSA action is simply a preliminary evaluation to determine worked according to expectations.

Following our standard practice, Tesla informed NHTSA abou

N. MILL AVENUE

N. MILL AVENUE

MOEUR PARK

MARQUEE THEATRE

Body seen

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

struck while walking her

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

Two **"AI winters"** before.

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
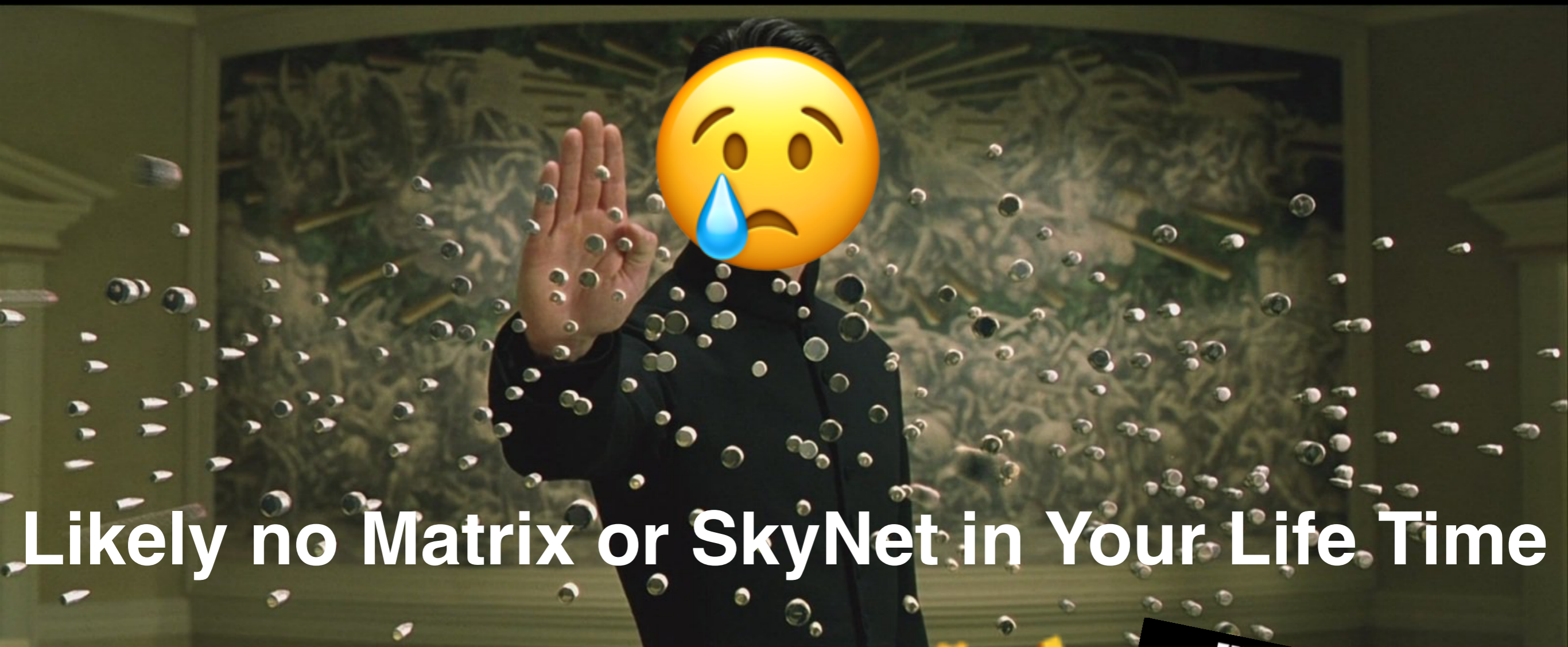
The Current State of AI

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

I'M SORRY WHAT

WERE YOU SAYING

imgflip.com