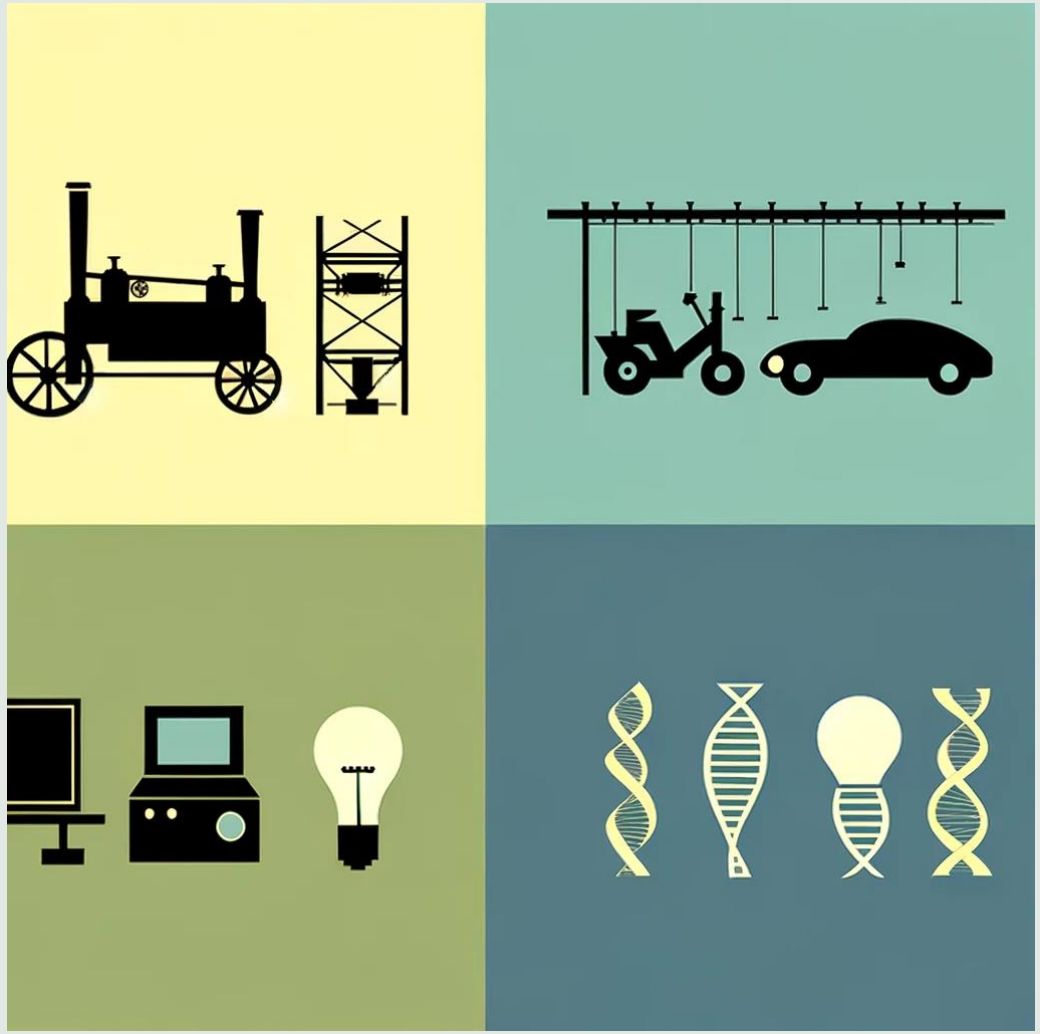
THE 4TH INDUSTRIAL REVOLUTION

By Talon Hird

RECAP


First Industrial Revolution (1760-1840)
Introduction of mechanical production powered by water and steam.
Transformation in textile manufacturing with innovations like the spinning jenny and power loom.
Second Industrial Revolution (1870-1914)
Advances in mass production techniques and the introduction of the assembly line.
Major developments in steel production, electricity, and the automotive industry.
Third Industrial Revolution (Late 20th Century)
Emergence of digital technology, computers, and the internet.
Automation in production and the rise of information technology and electronics.
Fourth Industrial Revolution (21st Century Onwards)
Integration of physical, digital, and biological technologies.
Proliferation of AI, robotics, the Internet of Things (IoT), genetic engineering, and more.



ECONOMIC ADVANTAGES OF AI

1.Cost Reduction: AI agents can dramatically reduce labor costs. For example, a typical customer service AI can handle inquiries at a fraction of the cost of human employees—often estimated to be about 1/10th the cost of a traditional call center agent.

2.Scalability: Unlike human workers, AI agents can scale almost instantaneously to meet demand without the need for additional physical space or drastically increased costs.

3.Efficiency Gains: AI can operate 24/7 without breaks, vacations, or sick leave, providing constant productivity that outstrips human capabilities.

4.Error Reduction: AI reduces the rate of human error in repetitive tasks, leading to cost savings from fewer mistakes and higher quality outputs.

5.One-time Investment: Although initial development and integration costs can be high, AI requires less ongoing expense compared to the continuous salary and benefits associated with human employees.

6.Operational Flexibility: AI allows companies to quickly adjust operations in response to market changes without the complexities of hiring, training, or laying off staff.

THE PROBLEM OF UNEMPLOYMENT

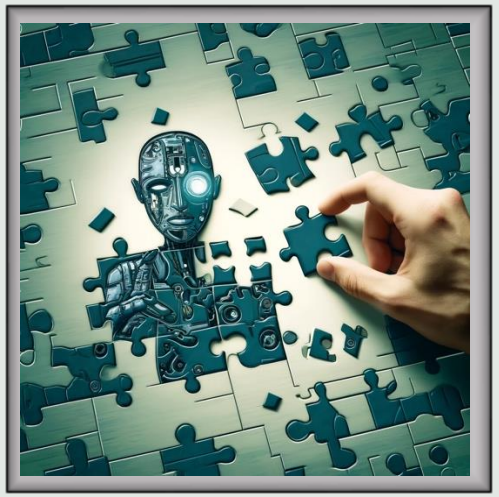
Unprecedented Speed: AI evolves and automates tasks at a faster rate than any previous technology, outpacing the job creation process.

High Skill Displacement: Unlike past technologies, AI targets both low-skill and high-skill jobs, leaving fewer opportunities for displaced workers.

Economic Concentration: AI benefits concentrate in the hands of few companies, potentially limiting widespread economic benefits.

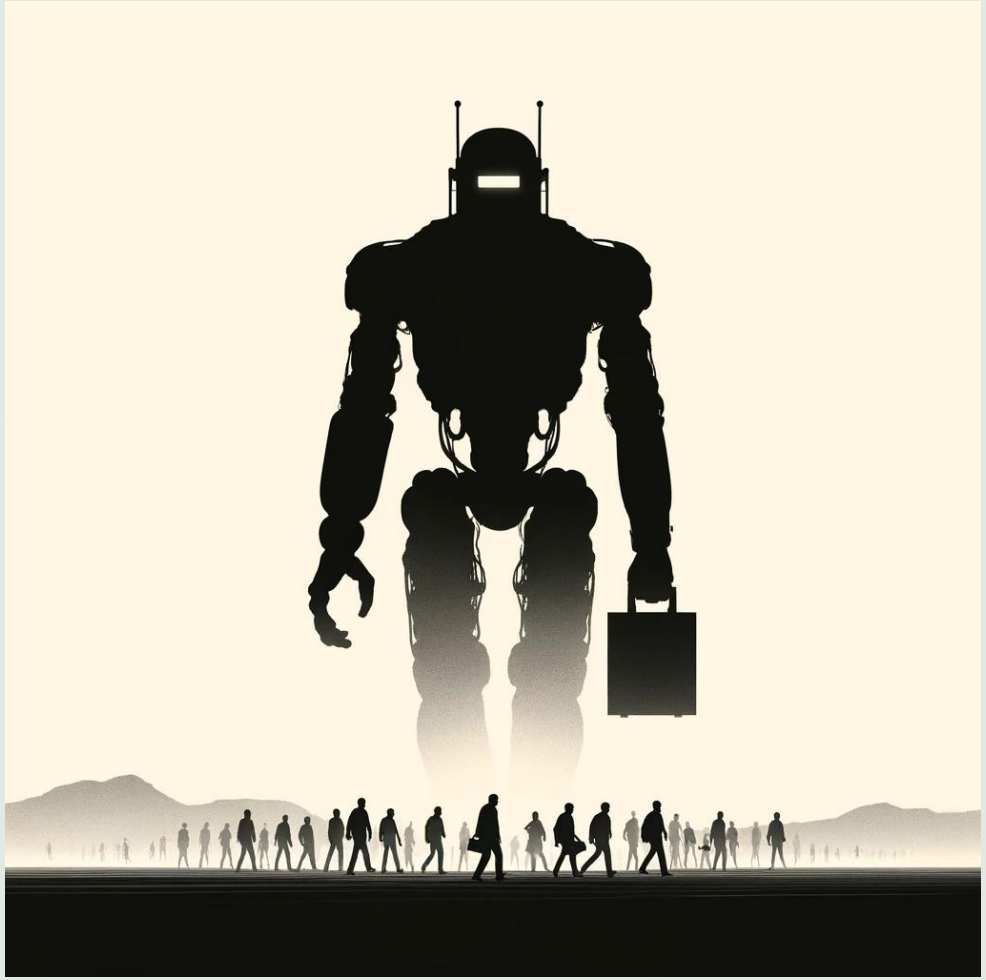
Limited Job Creation: While AI does create new jobs, the scale and accessibility of these roles do not match the volume of jobs it displaces.

Skill Mismatch: The skills required for new AI-driven roles often do not align with those of displaced workers, complicating reemployment.



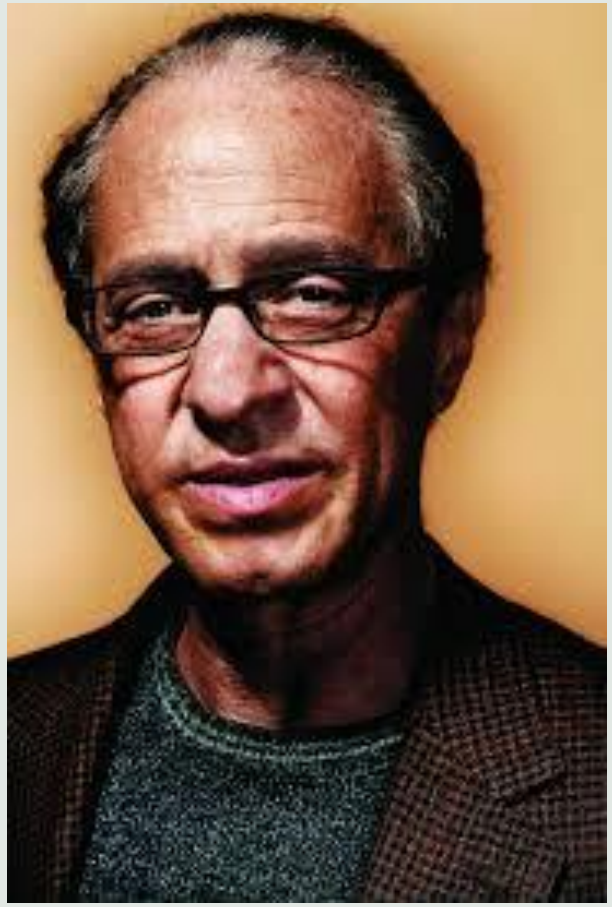
NEAR FUTURE

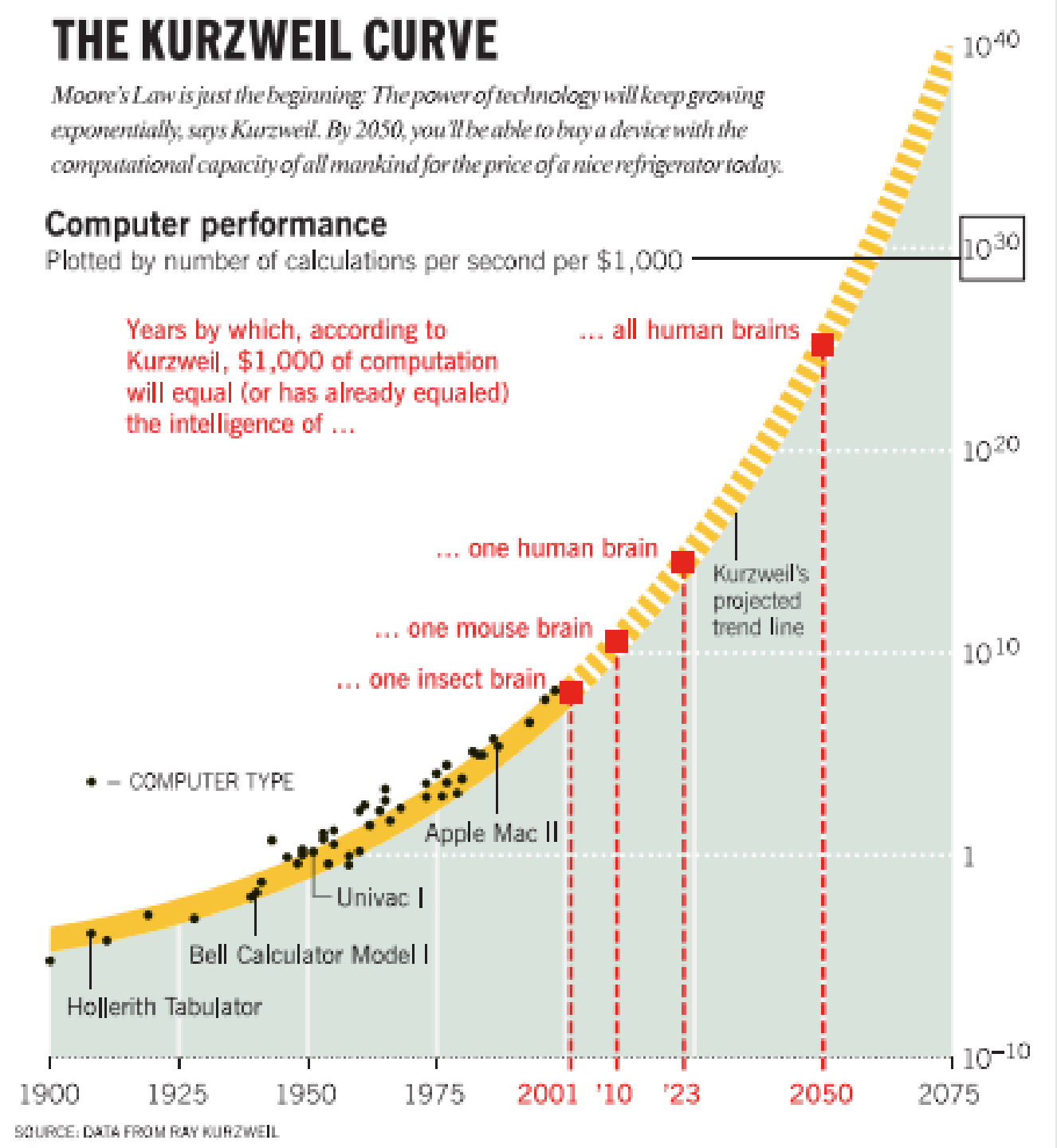
Job Displacement Predictions:	• An investment bank forecasts up to **300 million jobs** could be lost due to AI and automation technologies. • The World Economic Forum estimates **83 million job reductions** over the next five years due to structural shifts driven by AI.
Corporate Estimates of Job Replacement:	• IBM's CEO predicts that **30% of 26,000 back-office jobs** will be automated within five years.
Economic Projections:	• A survey of 800 companies employing 11.3 million workers projects the creation of **69 million new positions** but the elimination of **83 million jobs**, resulting in a net loss of **14 million roles by 2027**.
Global Job Loss Predictions:	• The McKinsey Global Institute projects that by 2030, **400 million to 800 million jobs worldwide** could be displaced by automation, with new jobs emerging in sectors like health care and technology.
Sector-Specific Data:	• In the United States, about **60% of jobs** have at least 30% of constituent activities that are technically automatable.
Wage Impact:	• The emergence of high-wage jobs is anticipated, but many middle-wage jobs will disappear, potentially leading to **increased income inequality**.
Employment Shifts:	• It is estimated that **75 million to 375 million workers (3% to 14% of the global workforce)** will need to switch occupational categories by 2030 due to automation.



RAY KURZWEIL

1. **Innovator & Inventor**: Developed pivotal technologies in optical character recognition and text-to-speech synthesis.
2. **Futurist Author**: Wrote influential books like "The Singularity is Near," predicting key tech trends.
3. **Accurate Forecaster**: Predicted the rise of the internet, AI advancements, and significant geopolitical events.
4. **Google's Director of Engineering**: Leads cutting-edge AI and language processing projects.
5. **Singularity Advocate**: Foresees AI surpassing human intelligence, transforming society.
6. **Recognized Genius**: Inducted into the National Inventors Hall of Fame; awarded the Lemelson-MIT Prize.

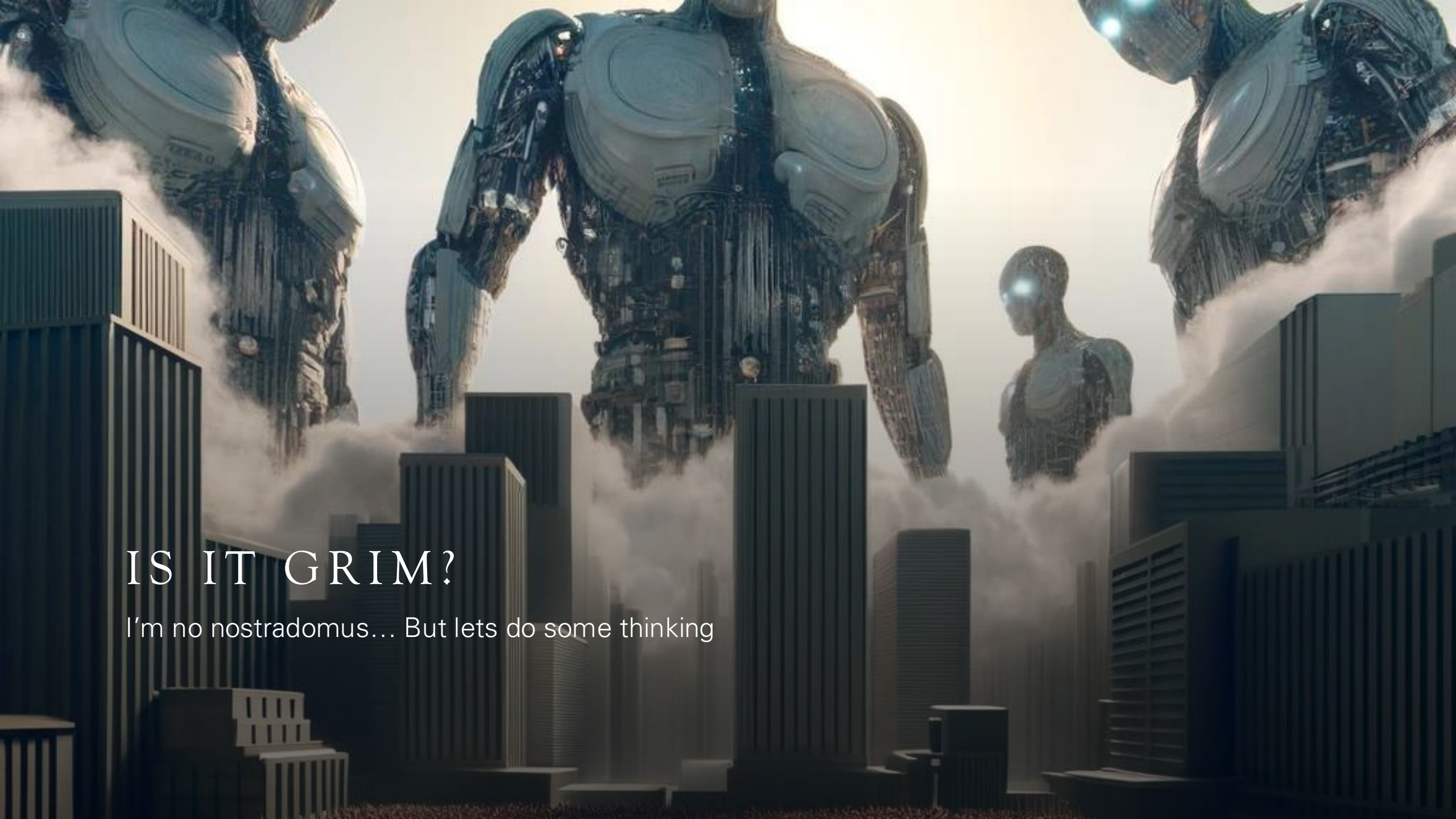




EXPONENTIAL GROWTH

- Ray's predictions have reigned more accurate than many would have anticipated
- Computing efficiency as well as other factors such as capital investment in computing warehouses and software innovation have made A.I the fastest growing technology in the history of mankind
- GPT and other Intelligence Models are already faster, better, and cheaper than human workers at many menial tasks. With further improvement, A.I agents will soon take over even more intellectually demanding jobs and replace vast swaths of the human workforce at a fraction of the cost


TH E GOOD
THE BAD
THE UGLY



IS IT GRIM?

I’m no nostradomus… But lets do some thinking

TECHNO UTOPIA

Post-Labor Techno-Utopia

•**Universal Basic Income (UBI)**: Implementation of a UBI system funded by AI-driven productivity gains, ensuring economic security for all, regardless of employment status.

•**Renewable Energy Infrastructure**: Massive investment in renewable energy technologies to drive down energy costs and support environmentally sustainable AI operations.

•**AI in Governance**: AI systems integrated into governance to optimize resource distribution, urban planning, and environmental management, ensuring equitable and efficient use of resources.

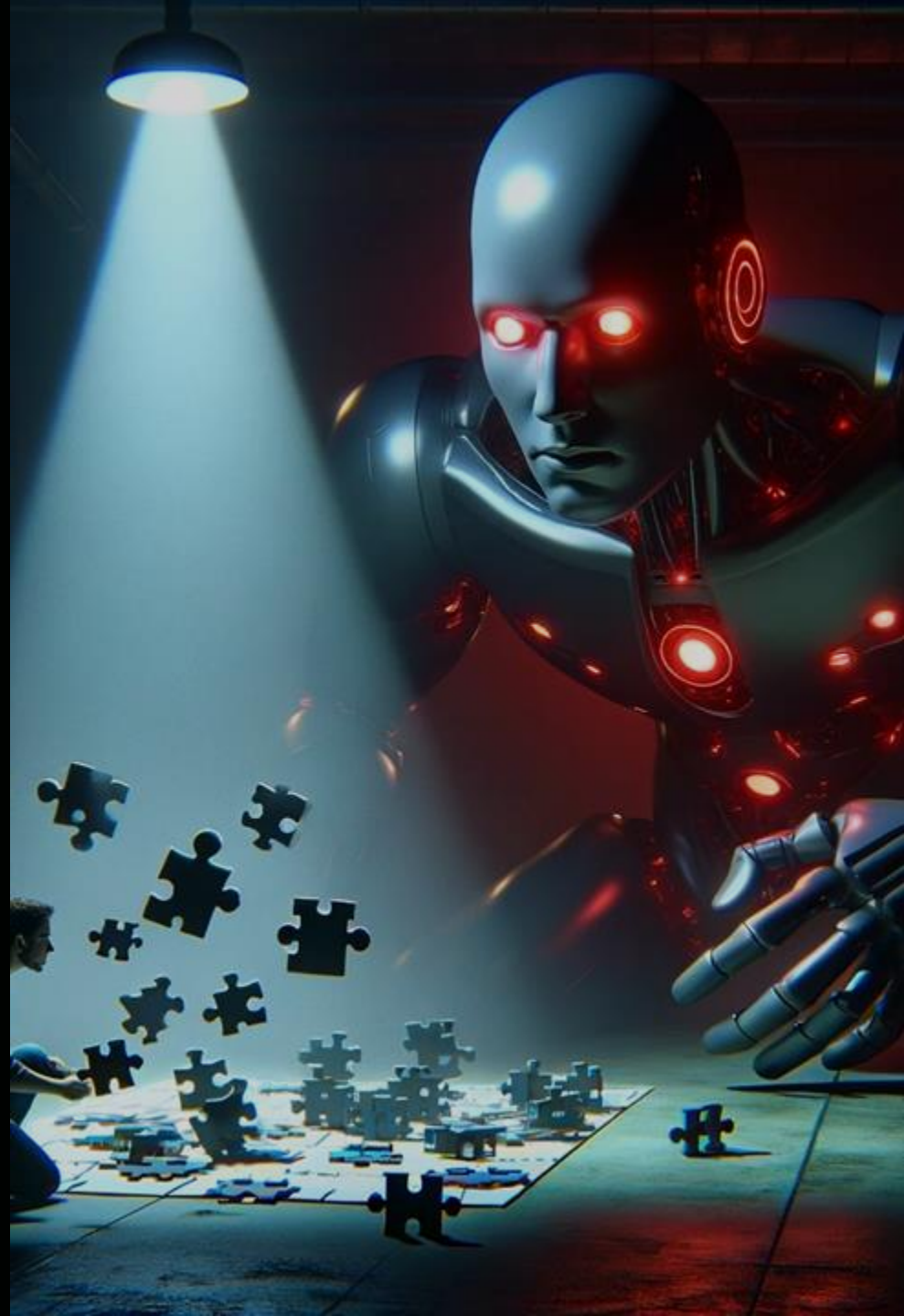
•**Education and Creativity Focus**: With physical and intellectual labor handled by AI, education systems pivot towards enhancing creative and interpersonal skills, promoting lifelong learning.

•**Legislation for Equity**: Laws mandating profit sharing from AI innovations with the public to ensure widespread wealth distribution and prevent economic polarization.

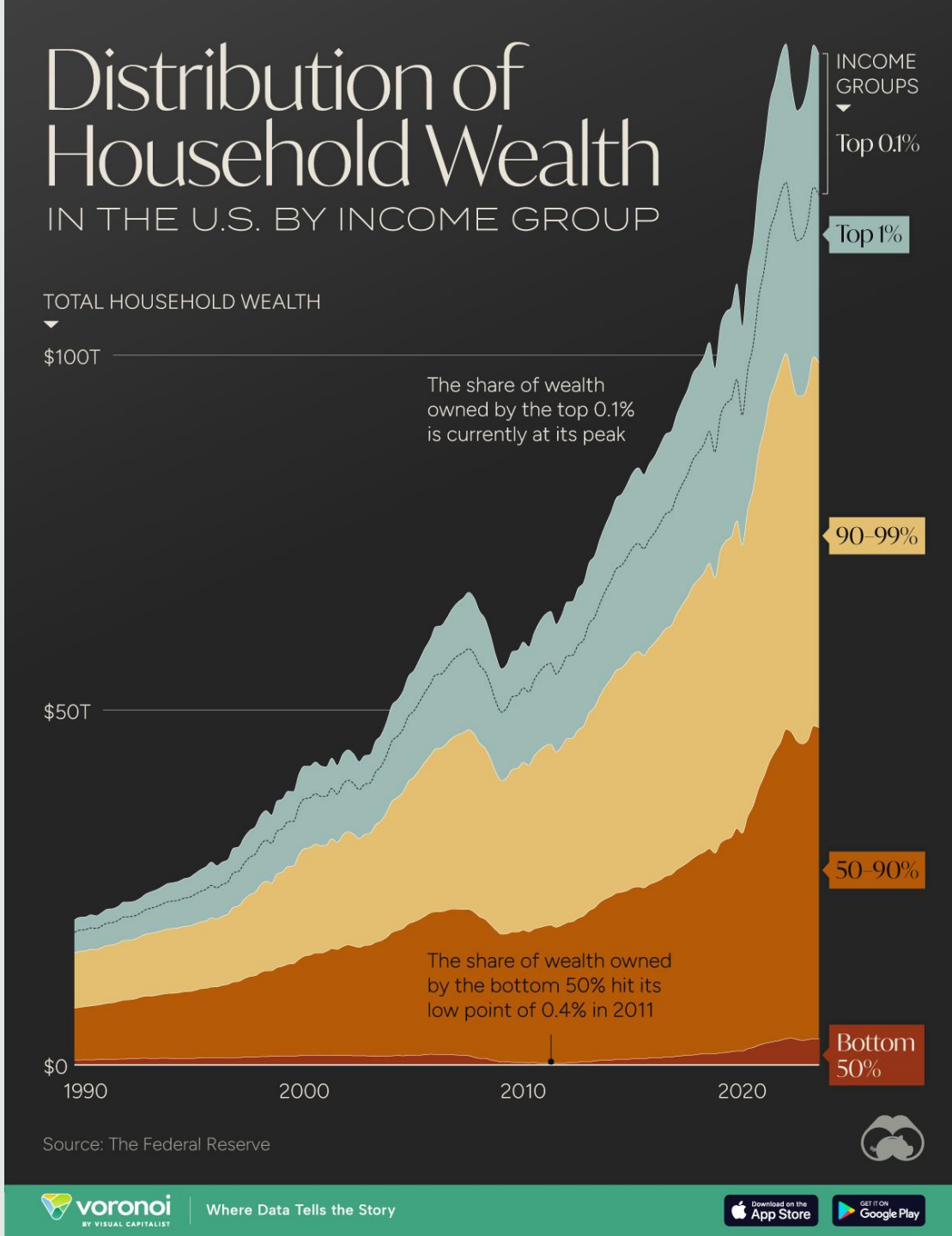
•**Healthcare Revolution**: Universal healthcare systems heavily supported by AI, providing personalized and preventative care, drastically reducing healthcare costs and improving public health.

The "Problem of Alignment" in AI refers to the critical challenge of ensuring that AI systems' actions and decisions are consistent with complex human values and intentions, thereby avoiding unintended consequences.

THE PROBLEM OF ALIGNMENT



WEALTH INEQUALITY



CITATIONS

https://www.visualcapitalist.com/wealth-distribution-in-america/.com/wealth-distribution-in-america/