Negative: Generic – Economic Impact Hype

By “Coach Vance” Trefethen

***Resolved: The United States federal government substantially reform the use of Artificial Intelligence technology***

This can be used against many cases when you don’t have specific evidence on their plan. It shows that the economic benefits of US artificial intelligence development are mostly hype and exaggeration. We don’t need to worry about AI, it’s not the next big thing that will drive our economy. AFF plans that claim economic benefits from AI aren’t needed, won’t work, and will probably only make things worse.

Generic Negative: Economic Impact Hype 3

NEG PHILOSOPHY 3

Heard it all before: AI was going to replace everything in the economy – in 1984. 3

Super claims of AI benefits are impossible to verify and most are just marketing hype 3

AI is full of hype, hysteria and exaggeration from self-interested investors 3

AI rollout is slow and expensive, and has limited benefits. It’s mostly hype 3

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AI will not significantly enhance business productivity 4

2. Too hard to implement 4

Hard to implement AI in a way that’s economically beneficial, especially for small firms 4

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“Future Innovation” isn’t a big economic factor. We’re facing decreasing AI returns and we shouldn’t expect much more 4

Promise of transformation of the economy with innovative AI has already failed 5

AI technological progress has stalled over the last decade 5

AI innovation is slowing down and even when it happens it only produces marginal improvements 5

AI research is bringing diminishing returns and getting more expensive. 6

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Claims of trillions of dollars in AI economic benefits are disproven by massive losses of companies doing AI 6

Not profitable for businesses to invest in AI due to slowing consumer demand 6

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Generic Negative: Economic Impact Hype

NEG PHILOSOPHY

Heard it all before: AI was going to replace everything in the economy – in 1984.

**John Horgan** 2020 (directs the Center for Science Writings at the Stevens Institute of Technology) Will Artificial Intelligence Ever Live Up to Its Hype? 4 Dec 2020 <https://www.scientificamerican.com/article/will-artificial-intelligence-ever-live-up-to-its-hype/> (accessed 15 Oct 2021)

When I started writing about science decades ago, artificial intelligence seemed ascendant. IEEE Spectrum, the technology magazine for which I worked, produced a special issue on how AI would transform the world. I edited an article in which computer scientist Frederick Hayes-Roth predicted that AI would soon replace experts in law, medicine, finance and other professions. That was in 1984.

Super claims of AI benefits are impossible to verify and most are just marketing hype

**John Horgan** 2020 (directs the Center for Science Writings at the Stevens Institute of Technology) Will Artificial Intelligence Ever Live Up to Its Hype? 4 Dec 2020 <https://www.scientificamerican.com/article/will-artificial-intelligence-ever-live-up-to-its-hype/> (accessed 15 Oct 2021)

Experts are pushing back against the hype, pointing out that many alleged advances in AI are based on flimsy evidence. Last January, for example, a team from Google Health claimed in Nature that their AI program had outperformed humans in [diagnosing breast cancer](https://www.nature.com/articles/s41586-019-1799-6). In October, a group led by Benjamin Haibe-Kains, a computational genomics researcher, criticized the Google health paper, arguing that the “lack of details of the methods and algorithm code [undermines its scientific value](https://www.nature.com/articles/s41586-020-2766-y).” Haibe-Kains complained to Technology Review that the Google Health report is “[more an advertisement](https://www.technologyreview.com/2020/11/12/1011944/artificial-intelligence-replication-crisis-science-big-tech-google-deepmind-facebook-openai/) for cool technology” than a legitimate, reproducible scientific study. The same is true of other reported advances, he said. Indeed, artificial intelligence, like biomedicine and other fields, has become mired in a replication crisis. Researchers make dramatic claims that cannot be tested, because researchers—especially those in industry—do not disclose their algorithms. One recent review found that [only 15 percent](https://www.stateof.ai/) of AI studies shared their code.

AI is full of hype, hysteria and exaggeration from self-interested investors

Prof. Wim Naude 2019 (professor of Economics at [Cork University Business School](https://www.cubsucc.com/faculty-directory/prof-wim-naud/), University College Cork, Ireland) 10 June 2019 The Economic and Business Impacts of Artificial Intelligence: Reality, not Hype <https://towardsdatascience.com/the-economic-and-business-impacts-of-artificial-intelligence-reality-not-hype-ee851dfd258e> (accessed 14 Oct 2021)

The debate on Artificial Intelligence (AI) is characterized by hyperbole and hysteria. The hyperbole is due to two effects: first, the promotion of AI by self-interested investors. It can be termed the “Google-effect”, after its CEO Sundar Pichai, who declared AI to be “probably the most important thing humanity has ever worked on”. He would say that. Second, the promotion of AI by tech-evangelists as a solution to humanity’s fundamental problems, even death.

AI rollout is slow and expensive, and has limited benefits. It’s mostly hype

Prof. Wim Naude 2019 (professor of Economics at [Cork University Business School](https://www.cubsucc.com/faculty-directory/prof-wim-naud/), University College Cork, Ireland) The Race against the Robots and the Fallacy of the Giant Cheesecake: Immediate and Imagined Impacts of Artificial Intelligence March 2019 <https://ftp.iza.org/dp12218.pdf> (accessed 14 Oct 2021)

A final point is that if one considers the nature of machine learning (and deep learning), the relatively few firms and countries driving AI innovation, and the somewhat limited basic core functionalities being developed (mostly computer vision and language), as well as perhaps most importantly the slow and expensive diffusion of machine learning analytics outside the giant tech companies, then the exaggeration or hype in the media about AI becomes even more accentuated.

SOLVENCY – No substantial economic gains from AI

1. Won’t enhance business productivity

AI will not significantly enhance business productivity

Prof. Wim Naude 2019 (professor of Economics at [Cork University Business School](https://www.cubsucc.com/faculty-directory/prof-wim-naud/), University College Cork, Ireland) 10 June 2019 The Economic and Business Impacts of Artificial Intelligence: Reality, not Hype <https://towardsdatascience.com/the-economic-and-business-impacts-of-artificial-intelligence-reality-not-hype-ee851dfd258e> (accessed 14 Oct 2021)

At the same time, we have seen a continued decline in labor productivity growth. The [UKs](https://bankunderground.co.uk/2018/04/25/bitesize-the-past-decades-productivity-growth-in-historical-context/) ten-year average labor productivity growth since 2007 was the lowest since 1761.Even global superstar firms, who may benefit most from AI, have not become more [productive](https://www.nber.org/papers/w25529). This cast doubt on the claims that AI has and will enhance [productivity](https://www.accenture.com/sk-en/insight-artificial-intelligence-future-growth) significantly.

2. Too hard to implement

Hard to implement AI in a way that’s economically beneficial, especially for small firms

Prof. Wim Naude 2019 (professor of Economics at [Cork University Business School](https://www.cubsucc.com/faculty-directory/prof-wim-naud/), University College Cork, Ireland) 10 June 2019 The Economic and Business Impacts of Artificial Intelligence: Reality, not Hype <https://towardsdatascience.com/the-economic-and-business-impacts-of-artificial-intelligence-reality-not-hype-ee851dfd258e> (accessed 14 Oct 2021)

First, the [diffusion](https://www.nber.org/chapters/c14007.pdf) of AI through the economy is slower than most people think. It is especially difficult for [small firms](https://www0.gsb.columbia.edu/faculty/lveldkamp/papers/BigDataPnP_manuscript_Veldkamp.pdf) to economically implement AI. Growing [Pseudo-AI](https://www.theguardian.com/technology/2018/jul/06/artificial-intelligence-ai-humans-bots-tech-companies) is a result of this. The [Guardian](https://www.theguardian.com/technology/2018/jul/06/artificial-intelligence-ai-humans-bots-tech-companies) points out “It’s hard to build a service powered by artificial intelligence. So hard, in fact, that some startups have worked out it’s cheaper and easier to get humans to behave like robots than it is to get machines to behave like humans”.

3. “Future Innovation” isn’t the answer and probably won’t happen

“Future Innovation” isn’t a big economic factor. We’re facing decreasing AI returns and we shouldn’t expect much more

Prof. Wim Naude 2019 (professor of Economics at [Cork University Business School](https://www.cubsucc.com/faculty-directory/prof-wim-naud/), University College Cork, Ireland) 10 June 2019 The Economic and Business Impacts of Artificial Intelligence: Reality, not Hype <https://towardsdatascience.com/the-economic-and-business-impacts-of-artificial-intelligence-reality-not-hype-ee851dfd258e> (accessed 14 Oct 2021)

Second, AI innovation is [getting harder](https://academic.oup.com/restud/article-abstract/76/1/283/1577537); and it is mostly applied to fine-tune and [disrupt](https://www.nber.org/papers/w20379) existing products rather than introduce radically new products. It may be entertaining to play with Google’s [Bach doodle](https://theconversation.com/artificial-intelligence-can-now-emulate-human-behaviors-soon-it-will-be-dangerously-good-114136), but it hardly raises productivity. The low-hanging fruits of applying Machine Learning (ML) may have been [reaped](https://voicebot.ai/2017/11/05/gartner-hype-cycle-suggests-another-ai-winter-near/), [decreasing returns](https://www.technologyreview.com/s/612768/we-analyzed-16625-papers-to-figure-out-where-ai-is-headed-next/) seem to have set in, and on top of this that ML is facing a [reproducibility crisis](https://www.technologyreview.com/the-download/612982/machine-learning-is-contributing-to-a-reproducibility-crisis-within-science/). The end of [Moore’s Law](https://www.nature.com/news/the-chips-are-down-for-moore-s-law-1.19338) may be in sight.

Promise of transformation of the economy with innovative AI has already failed

Dr. Jason Mars 2021 (PhD in computer science;  professor of computer science at Univ of Michigan) 25 March 2021 “The Antidote To The Hype, Noise, And Spin Of Artificial Intelligence” FORBES <https://www.forbes.com/sites/forbesbooksauthors/2021/03/25/the-antidote-to-the-hype-noise-and-spin-of-artificial-intelligence/?sh=dbbf0e743cd2> (accessed 15 Oct 2021)

What went wrong with artificial intelligence? This transformative technology was supposed to change everything. I’ve seen first-hand the incredible potential it has—both as a professor of computer science at the University of Michigan and as the founder of Clinc, ZeroShotBot, Myca.ai, a non-profit called ImpactfulAI, and several other AI-focused companies. So, why has it devolved into overhyped solutions, marketing noise, and an endless spin of the same, tired ideas? Into poor user experiences, embarrassing bugs, and countless other misfires? The answer is pretty clear when you consider how every business has been told it needs artificial intelligence to stay competitive. This mad dash is symbolic of the gold rush, as companies push and pull to be early adopters—to scrape every last dollar out of their ROI. Add to that the misconceptions about what it can do, the ebb and flow of innovation vs. standard techniques, the grandiose promises, the marketability of AI, and it becomes clear how we got here.

AI technological progress has stalled over the last decade

Matthew Hutson 2020 (journalist) “Core progress in AI has stalled in some fields” 29 May 2020 SCIENCE <https://www.science.org/doi/full/10.1126/science.368.6494.927> )(accessed 15 Oct 2021) (ellipses in original)



AI innovation is slowing down and even when it happens it only produces marginal improvements

Prof. Wim Naude 2019 (professor of Economics at [Cork University Business School](https://www.cubsucc.com/faculty-directory/prof-wim-naud/), University College Cork, Ireland) The Race against the Robots and the Fallacy of the Giant Cheesecake: Immediate and Imagined Impacts of Artificial Intelligence March 2019 <https://ftp.iza.org/dp12218.pdf> (accessed 14 Oct 2021)

Fifth, the tempo of innovation in AI may be slowing down. There have been AI winters in the 1970s and 1980s. Some are predicting another AI winter, predicting that deep learning is soon to be exhausted (Hao, 2019). The innovation in AI may not only be slowing down, but the costs thereof may be underestimated. Based on the arguments of Komlos (2014) there may be a case to make that much AI ‘innovations’ have been characterised more by Schumpeterian ‘destruction’ rather than ‘creation’, that is to say that the net benefits may be overestimated because there is a high degree of substitutability between new AI-driven services and products and the older products and services that they displace. As was noted in section 2, the bulk of AI applications is of advances in machine vision and speech to make existing products, services and processes somewhat better, not so much yet to provide completely new products, capital and processes. As Cowen (2016, p.43) remarked ‘most new technologies today generate only marginal improvements in well-being’.

AI research is bringing diminishing returns and getting more expensive.

Prof. Wim Naude 2019 (professor of Economics at [Cork University Business School](https://www.cubsucc.com/faculty-directory/prof-wim-naud/), University College Cork, Ireland) The Race against the Robots and the Fallacy of the Giant Cheesecake: Immediate and Imagined Impacts of Artificial Intelligence March 2019 <https://ftp.iza.org/dp12218.pdf> (accessed 14 Oct 2021) (a “petaflop” is a unit of computing speed, involving 1 million billion operations / second)

Adequately training AI on large datasets through deep learning is subject to decreasing returns and getting more and more expensive at the technological edge. Consider for instance that in 2018 Google trained AlphaGo Zero, its game (Go) playing algorithm, using over 1,000 petaflop/s a day. This is 300,000 times more compute thrown at deep learning in 2018 than in 2012. What this reflects is that current AI R&D and business generation is difficult, expensive and subject to decreasing returns. In particular, smaller companies are at a disadvantage facing barriers to entry in the form of gaining access to data and data scientists (Bergstein, 2019; Farboodi et al., 2019). AI may be back, but it is back in a rather cornered niche.

4. AI economic growth projections are wrong

Claims of trillions of dollars in AI economic benefits are disproven by massive losses of companies doing AI

Prof. Jeffrey Funk 2019 (Associate Professor of Business at Kobe University's Research Institute for Economics and Business ) 5 Dec 2019 [AI AND ECONOMIC PRODUCTIVITY: EXPECT EVOLUTION, NOT REVOLUTION](https://spectrum.ieee.org/ai-and-economic-productivity-expect-evolution-not-revolution) <https://spectrum.ieee.org/ai-and-economic-productivity-expect-evolution-not-revolution#toggle-gdpr> (accessed 15 Oct 2021)

These analysts have lately been asserting that AI-enabled technologies will dramatically increase economic output. [Accenture claims that by 2035 AI will double growth rates](https://www.accenture.com/sg-en/insight-artificial-intelligence-future-growth) for 12 developed countries and increase labor productivity by as much as a third. [PwC claims that AI will add $15.7 trillion to the global economy](https://www.pwc.com/gx/en/issues/data-and-analytics/publications/artificial-intelligence-study.html) by 2030, while [McKinsey projects a $13 trillion boost](https://blogs.wsj.com/cio/2018/11/16/the-impact-of-artificial-intelligence-on-the-world-economy/) by that time. Other forecasts have focused on specific sectors such as retail, energy, education, and manufacturing. In particular, the [McKinsey Global Institute](https://www.mckinsey.com/mgi/overview) assessed the impact of AI on these four sectors in a 2017 report titled Artificial Intelligence: The New Digital Frontier? and did so for a much longer list of sectors [in a 2018 report](https://www.mckinsey.com/featured-insights/artificial-intelligence/notes-from-the-ai-frontier-applications-and-value-of-deep-learning). In the latter, the institute concluded that AI techniques “have the potential to create between $3.5 trillion and $5.8 trillion in value annually across nine business functions in 19 industries. This constitutes about 40 percent of the overall $9.5 trillion to $15.4 trillion annual impact that could potentially be enabled by all analytical techniques." ow. These are big numbers. If true, they create a powerful incentive for companies to pursue AI—with or without help from McKinsey consultants. But are these predictions really valid? Many of McKinsey's estimates were made by extrapolating from claims made by various startups. For instance, its prediction of a 10 percent improvement in energy efficiency in the U.K. and elsewhere was based on the purported success of DeepMind and also of Nest Labs, which became part of Google's hardware division in 2018. In 2017, Nest, which makes a smart thermostat and other intelligent products for the home, lost [$621 million on revenues of $726 million.](https://www.theverge.com/2018/4/23/17272748/alphabet-google-q1-2018-earnings-nest-smart-home-amazon-competition) That fact doesn't mesh with the notion that Nest and similar companies are contributing, or are poised to contribute, hugely to the world economy.

Not profitable for businesses to invest in AI due to slowing consumer demand

Prof. Wim Naude 2019 (professor of Economics at [Cork University Business School](https://www.cubsucc.com/faculty-directory/prof-wim-naud/), University College Cork, Ireland) 10 June 2019 The Economic and Business Impacts of Artificial Intelligence: Reality, not Hype <https://towardsdatascience.com/the-economic-and-business-impacts-of-artificial-intelligence-reality-not-hype-ee851dfd258e> (accessed 14 Oct 2021)

Third, it is not profitable for businesses to invest in AI given slow growing [consumer demand](https://www.iza.org/publications/dp/12005/artificial-intelligence-jobs-inequality-and-productivity-does-aggregate-demand-matter) in most western countries. Most AI innovation is in visual systems for autonomous vehicles. Despite this, autonomous vehicles are most notable for their absence from our roads. This is likely to remain the case for a [long time](https://www.theverge.com/2018/7/3/17530232/self-driving-ai-winter-full-autonomy-waymo-tesla-uber), for [technical reasons](https://knowledge.wharton.upenn.edu/article/self-driving-cars/), and due to sunk [investments](https://www.technologyreview.com/s/609048/the-seven-deadly-sins-of-ai-predictions/).

No big boost to the US economy is likely from AI over the next decade

Prof. Jeffrey Funk 2019 (Associate Professor of Business at Kobe University's Research Institute for Economics and Business ) 5 Dec 2019 [AI AND ECONOMIC PRODUCTIVITY: EXPECT EVOLUTION, NOT REVOLUTION](https://spectrum.ieee.org/ai-and-economic-productivity-expect-evolution-not-revolution) <https://spectrum.ieee.org/ai-and-economic-productivity-expect-evolution-not-revolution#toggle-gdpr> (accessed 15 Oct 2021)

Most of the 40 AI startups I examined will probably stay private, at least in the near term. But even if some do go public several years down the road, it's unlikely they'll be profitable at that point, if the experience of many other tech companies is any guide. It may take these companies years more to achieve the distinction of making more money than they are spending. For the reasons I've given, it's very hard for me to feel confident that any of the AI startups I examined will provide the U.S. economy with a big boost over the next decade.

Benefits are limited, returns are decreasing, innovation is getting harder. Don’t expect much more economic growth from AI

Prof. Wim Naude 2019 (professor of Economics at [Cork University Business School](https://www.cubsucc.com/faculty-directory/prof-wim-naud/), University College Cork, Ireland) The Race against the Robots and the Fallacy of the Giant Cheesecake: Immediate and Imagined Impacts of Artificial Intelligence March 2019 <https://ftp.iza.org/dp12218.pdf> (accessed 14 Oct 2021)

A fourth point that is relevant for the present discussion, and which is somewhat related to the previous point, as well as the facts presented on the rather narrow concerns of AI (most AI abilities are limited to machine vision, natural language processing, speech, and business intelligence) is that possibility that the current AI-boom may not last very long. Perhaps another AI winter is looming. Deep learning is facing decreasing returns, amongst others AI may need innovations in hardware (including in edge and quantum computing) and the same may apply for the growth in applications based on it (Hao, 2019). On whether another AI winter is looming the jury is still out, although there are signs that the low hanging fruits of deep learning may have been reaped (Hao, 2019) and that alternative approaches to AI may be needed in order to better simulate human intelligence (Bellmund et al., 2018; Dyson, 2019). Fundamentally, innovation is getting harder as a result of the burden of knowledge (Jones, 2009). Sequeira et al. (2018) has shown that entropy will limit the extent of technologically-driven economic growth and provides estimates of when economic growth will converge to a zero rate.

5. No significant job growth

AI unlikely to have much positive or negative impact on job creation or loss

Prof. Wim Naude 2019 (professor of Economics at [Cork University Business School](https://www.cubsucc.com/faculty-directory/prof-wim-naud/), University College Cork, Ireland) The Race against the Robots and the Fallacy of the Giant Cheesecake: Immediate and Imagined Impacts of Artificial Intelligence March 2019 <https://ftp.iza.org/dp12218.pdf> (accessed 14 Oct 2021)

AI is unlikely to cause huge job losses (or job creation) in the foreseeable future, at least in advanced economies (there seem to be valid concerns that emerging economies may face more significant impacts: but more research is needed). The main reasons for this conclusion are based on (i) the fact that the methods used to calculate potential job losses are sensitive to assumptions used; (ii) automation may affect tasks more significantly, rather than the jobs within which they are performed; (iii) net job creation can be positive because automation stimulates the creation of new jobs or jobs elsewhere; (iv) diffusion of AI may be much slower than is thought or assumed; and (v) the tempo of innovation in AI is slowing down (and complementary investments and innovations are needed for this, such as in edge computing or quantum computing).

6. More study needed

More study needed on the economic impacts of AI

Prof. Wim Naude 2019 (professor of Economics at [Cork University Business School](https://www.cubsucc.com/faculty-directory/prof-wim-naud/), University College Cork, Ireland) The Race against the Robots and the Fallacy of the Giant Cheesecake: Immediate and Imagined Impacts of Artificial Intelligence March 2019 <https://ftp.iza.org/dp12218.pdf> (accessed 14 Oct 2021)

The empirical evidence is however subject to two shortcomings. First, most studies have focused on advanced economies. They few studies from emerging economies (e.g. World Bank (2016); Carbonero et al. (2018) tend to suggest that the effects of automation may be worse for emerging economies. A second shortcoming is that most studies do not measure the impact of AI directly, but rather via various measures of ‘automation’ of tasks, using various broader indicators such as industrial robots and ‘automation costs’ which may or may not be appropriate proxies. It seems the assumption, still to be rigorously tested, is that AI is an effective automation technology, or similar to previous and existing automation technologies, and therefore one may see AI fas synonymous for automation. Given however the comments above on the slow diffusion of AI, and the relatively slow penetration of AI to many emerging economies outside of China, more research is needed to better understand AI as an automation technology, and to understand the potential vulnerabilities of emerging economies to AI

DISADVANTAGES

1. Hype brings failure

Link: AFF is over hyping the supposed benefits of AI

They’re telling you we need it to do all these wonderful things, when in fact that’s mostly hype and exaggeration.

Link: AI hype is out of control and leads to crazy proposals

Prof. Wim Naude 2019 (professor of Economics at [Cork University Business School](https://www.cubsucc.com/faculty-directory/prof-wim-naud/), University College Cork, Ireland) 10 June 2019 The Economic and Business Impacts of Artificial Intelligence: Reality, not Hype <https://towardsdatascience.com/the-economic-and-business-impacts-of-artificial-intelligence-reality-not-hype-ee851dfd258e> (accessed 14 Oct 2021)

The United Nations’ [Secretary-General](https://www.un.org/en/newtechnologies/) has, for the first time in history, published a “Strategy on New Technologies, singling out certain technologies, including AI, for special attention, based on the belief that “automation, artificial intelligence and robotics promise enhanced economic growth, but they can also exacerbate inequality within and between nations and can contribute to unemployment”. Taking its cue from this strategy, The United Nations University’s Centre for Policy Research ([CPR](https://cpr.unu.edu/tag/artificial-intelligence)) goes even further in justifying the UN’s planned intervention in the field of AI by claiming that AI is “transforming the geopolitical order” and even more [incredibly](https://cpr.unu.edu/ai-global-governance-a-new-charter-of-rights-for-the-global-ai-revolution.html) that “a shift in the balance of power between intelligent machines and humans is already visible”. Its blog have [called](https://cpr.unu.edu/ai-global-governance-why-we-need-an-intergovernmental-panel-for-artificial-intelligence.html) for “an Intergovernmental Panel for Artificial Intelligence” [and](https://cpr.unu.edu/ai-global-governance-developing-resilient-economies-in-the-age-of-ai.html) for a “UN-led multi-stakeholder global governance regime”. Yes, it sees AI as of the same complexity and magnitude as climate change. There are many other examples of AI hyperbole and hysteria leading to crazy proposals.

Impact: Turn the AFF case on the benefits of technological innovation. AI hype gets people unhinged and sets back innovation – so it gets worse with an AFF ballot.

Prof. Wim Naude 2019 (professor of Economics at [Cork University Business School](https://www.cubsucc.com/faculty-directory/prof-wim-naud/), University College Cork, Ireland) 10 June 2019 The Economic and Business Impacts of Artificial Intelligence: Reality, not Hype <https://towardsdatascience.com/the-economic-and-business-impacts-of-artificial-intelligence-reality-not-hype-ee851dfd258e> (accessed 14 Oct 2021)

The upshot is that the hype and hysteria about AI has led to an “[unhinged](https://www.theguardian.com/technology/2018/jul/25/ai-artificial-intelligence-social-media-bots-wrong)” debate about AI, and is now encouraging stifling [regulations](https://theconversation.com/does-regulating-artificial-intelligence-save-humanity-or-just-stifle-innovation-85718) as well as AI “[arms races](https://www.iza.org/publications/dp/11737/the-race-for-an-artificial-general-intelligence-implications-for-public-policy)”. These consequences could hasten a premature AI-winter through inappropriate controls and a loss of public trust, unfortunately at a time when the world needs more, not less, technological innovation, and for this technology to diffuse much faster.

2. Negative economic impacts

In the long term, AI won’t produce economic prosperity for all, but more likely long-term misery for all

Prof. Wim Naude 2019 (professor of Economics at [Cork University Business School](https://www.cubsucc.com/faculty-directory/prof-wim-naud/), University College Cork, Ireland) The Race against the Robots and the Fallacy of the Giant Cheesecake: Immediate and Imagined Impacts of Artificial Intelligence March 2019 <https://ftp.iza.org/dp12218.pdf> (accessed 14 Oct 2021)

Benzell et al. (2018) build on this by focusing not so much on how automation is incorporated into the production function, but rather on what it implies for saving and consumption patterns. Their model predicts a decline in the labor share, tech booms and busts, and ‘growing dependency of current output on past software investment’ (Ibid, p.21). Both Sachs et al. (2015) and Benzell et al. (2018) calls for more attention to the distributional aspects of automation; in the words of the latter their ‘central massage is disturbing. Absent appropriate fiscal policy that redistributes from winners to losers, smart machines can mean long-term misery for all’ (Benzell et al., 2018, p.22).

Even if AI produces some economic growth, it will lead to lower wages and consumption in the long-run due to lower demand for labor

Prof. Wim Naude 2019 (professor of Economics at [Cork University Business School](https://www.cubsucc.com/faculty-directory/prof-wim-naud/), University College Cork, Ireland) The Race against the Robots and the Fallacy of the Giant Cheesecake: Immediate and Imagined Impacts of Artificial Intelligence March 2019 <https://ftp.iza.org/dp12218.pdf> (accessed 14 Oct 2021)

To allow for and model the joint occurrence of low growth and higher inequality due to automation, Benzell et al. (2018) and Sachs et al. (2015) use an overlapping generations (OLG) model and Gries and Naud´e (2018) an endogenous growth model to explore how the distributive impacts of automation may lead via the demand side to growth constraints. Sachs et al. (2015) model automation through robotics, which they define as machines that ‘allow for output without labor’ (Ibid, p.3). They find that an increase in automation can raise output over the shortterm but will also lead to lower wages and consumption over the longer-run, due to the lower demand for labor. Thus, over the short-term increases in economic growth and inequality may be occurring simultaneously, but this will turn out to be immiserating growth.

3. AI Winter [disappointment and backlash]

Link: Hype leads to disappointment, when people realize it was unrealistic. They give up and “AI Winter” sets in

**John Horgan** 2020 (directs the Center for Science Writings at the Stevens Institute of Technology) Will Artificial Intelligence Ever Live Up to Its Hype? 4 Dec 2020 <https://www.scientificamerican.com/article/will-artificial-intelligence-ever-live-up-to-its-hype/> (accessed 15 Oct 2021)

Writing in The Gradient, an online magazine devoted to tech, AI entrepreneur and writer Gary Marcus accuses AI leaders as well as the media of [exaggerating the field’s progress](https://thegradient.pub/an-epidemic-of-ai-misinformation/). AI-based autonomous cars, fake news detectors, diagnostic programs and chatbots have all been oversold, Marcus contends. He warns that “if and when the public, governments, and investment community recognize that they have been sold an unrealistic picture of AI’s strengths and weaknesses that doesn't match reality, a new AI winter may commence.”

Brink: We’re on the edge of AI disillusionment right now.

Gary Marcus 2019 (scientist; *founder and CEO of Robust.AI, and was the founder and CEO of Geometric Intelligence, a machine learning company acquired by Uber in 2016* ) An Epidemic of AI Misinformation 30 Nov 2019 THE GRADIENT <https://thegradient.pub/an-epidemic-of-ai-misinformation/> (accessed 15 Oct 2021)

Right now, governments, large corporations and venture capitalists are making massive investments into AI, largely deep learning; if they start to perceive a pattern of overpromising, the whole field might suffer. If driverless cars and conversational bots appear only a year or two late, no problem, but the more deadlines slip, on driverless cars, medical diagnosis and conversational AI, the greater the risk of new AI winter becomes.

Impact: Turn the AFF case about the benefits of AI. Disappointment will debilitate AI when people realize the hype

Gary Marcus 2019 (scientist; *founder and CEO of Robust.AI, and was the founder and CEO of Geometric Intelligence, a machine learning company acquired by Uber in 2016* ) An Epidemic of AI Misinformation 30 Nov 2019 THE GRADIENT <https://thegradient.pub/an-epidemic-of-ai-misinformation/> (accessed 15 Oct 2021)

To recap thus far, misinformation about AI is common. Although overreporting is not ubiquitous, even prominent media outlets often misrepresent results; corporate interests frequently contribute to the problem. Individual researchers, even some of the most eminent ones, sometimes do as well, while many more sit quietly by, without publicly clarifying, when their results are misinterpreted. Misinformation is not ubiquitous – some researchers are forthright about limitations, and some new stories are reported accurately, by some venues, with honest recognition of limits, but the overall tendency towards interpreting each incremental advance as revolutionary is widespread, because it fits a happy narrative of human triumph. The net consequences could, in the end, debilitate the field, paradoxically inducing an AI winter after initially helping stimulate public interest.

Historical Example: Disillusionment and abandonment when AI gets over-hyped -- happened in 1974

Gary Marcus 2019 (scientist; *founder and CEO of Robust.AI, and was the founder and CEO of Geometric Intelligence, a machine learning company acquired by Uber in 2016* ) An Epidemic of AI Misinformation 30 Nov 2019 THE GRADIENT <https://thegradient.pub/an-epidemic-of-ai-misinformation/> (accessed 15 Oct 2021)

Why should practitioners care? After all, hype for AI grows the pot for everyone, doesn’t it? Public enthusiasm means more dollars into research, and more people working on AI; we will get to artificial general intelligence faster if there are more dollars and more people. What’s the harm? I see this as a version of the tragedy of the commons, in which (for example) many people overfish a particular set of waters, yielding more fish for themselves in the short term, until the entire population of fish crashes, and everybody suffers. In AI the risk is this: if and when the public, governments, and investment community recognize that they have been sold an unrealistic picture of AI’s strengths and weaknesses that doesn't match reality, a new [AI winter](https://en.wikipedia.org/wiki/AI_winter) may commence. (The first came in 1974 after an earlier cycle of hype and disappointment.)

4. False hype does real damage

AI hype leads to wasting money trying to use it on problems it can’t solve

Adam Lashinsky 2019 (Business Insider contributor and former executive editor at Fortune magazine ) 22 Jan 2019 “Artificial Intelligence: Separating the Hype from Reality” FORTUNE <https://fortune.com/2019/01/22/artificial-intelligence-ai-reality/> (accessed 15 Oct 2021)

**Like bees to honey**, tech trends generate hype. Merely appending the word “dotcom” to a company’s name drove up stock prices in the Internet’s salad days. Cloud computing, big data, and cryptocurrencies each have taken their turn in the hype cycle in recent years. Every trend brings genuinely promising technological developments, befuddling buzzwords, enthusiastic investors, and reassuring consultants offering enlightenment—for a fee, naturally. Now the catchall phrase of artificial intelligence is shaping up as the defining technological trend of the moment. And yet, because the claims of what it will achieve are so grand, businesses risk raising their hopes for A.I. too high—and wasting money by trying to apply the technology to problems it can’t solve.

False hype about AI replacing radiologists led to not training new ones… and now we have shortages of them

Gary Marcus 2019 (scientist; *founder and CEO of Robust.AI, and was the founder and CEO of Geometric Intelligence, a machine learning company acquired by Uber in 2016* ) An Epidemic of AI Misinformation 30 Nov 2019 THE GRADIENT <https://thegradient.pub/an-epidemic-of-ai-misinformation/> (accessed 15 Oct 2021) (brackets added)

[Roughly a year later [Google AI expert Geoff] Hinton](https://www.youtube.com/watch?v=2HMPRXstSvQ&t=29s) claimed that radiologists are like “the coyote already over the edge of the cliff who hasn’t yet looked down”, suggesting “if you work as a radiologist you are like Wile E. Coyote in the cartoon, you're already over the edge of the cliff” and adding that “We should stop training radiologists now. It’s just completely obvious that within five years, deep learning is going to do better than radiologists.” Hinton further echoed this claim in a [2017 interview with the New Yorker](https://www.newyorker.com/magazine/2017/04/03/ai-versus-md). Hundreds of deep learning for radiology companies have been spawned in the meantime, [but thus far no actual radiologists have been replaced, and the best guess is that deep learning can augment radiologists, but not, in the near-term replace them](https://www.statnews.com/2019/10/23/advancing-ai-health-care-trust/). Hinton’s words frightened many radiology departments. The consequences may have been negative; currently in many parts of the world there is a shortage of radiologists.