Artificial Intelligence

By: Charlie Giattino, Edouard Mathieu, Veronika Samborska and Max Roser

Artificial intelligence (AI) systems already greatly impact our lives — they increasingly shape what we see, believe, and do. Based on the steady advances in AI technology and the significant recent increases in investment, we should expect AI technology to become even more powerful and impactful in the following years and decades.

It is easy to underestimate how much the world can change within a lifetime, so it is worth taking seriously what those who work on AI expect for the future. Many AI experts believe there is a real chance that human-level artificial intelligence will be developed within the following decades, and some think it will exist much sooner.

How such powerful AI systems are built and used will be very important for the future of our world and our own lives. All technologies have positive and negative consequences, but with AI, the range of these consequences is extraordinarily large: the technology has immense potential for good. Still, it comes with significant downsides and high risks.

A technology that has such an enormous impact needs to be of central interest to people across our *entire* society. But currently, the question of how this technology will get developed and used is left to a small group of entrepreneurs and engineers.

With our publications on artificial intelligence, we want to help change this status quo and support a broader societal engagement.

On this page, you will find key insights, articles, and charts of AI-related metrics that let you monitor what is happening and where we might be heading. We hope that this work will be helpful for the growing and necessary public conversation on AI.

Key Insights on Artificial Intelligence

AI systems perform better than humans in language and image recognition in some tests

AI systems can generate increasingly better images and text

The last decades saw a continuous exponential increase in the computation used to train AI

As training computation increased, large languag models have become m more powerful

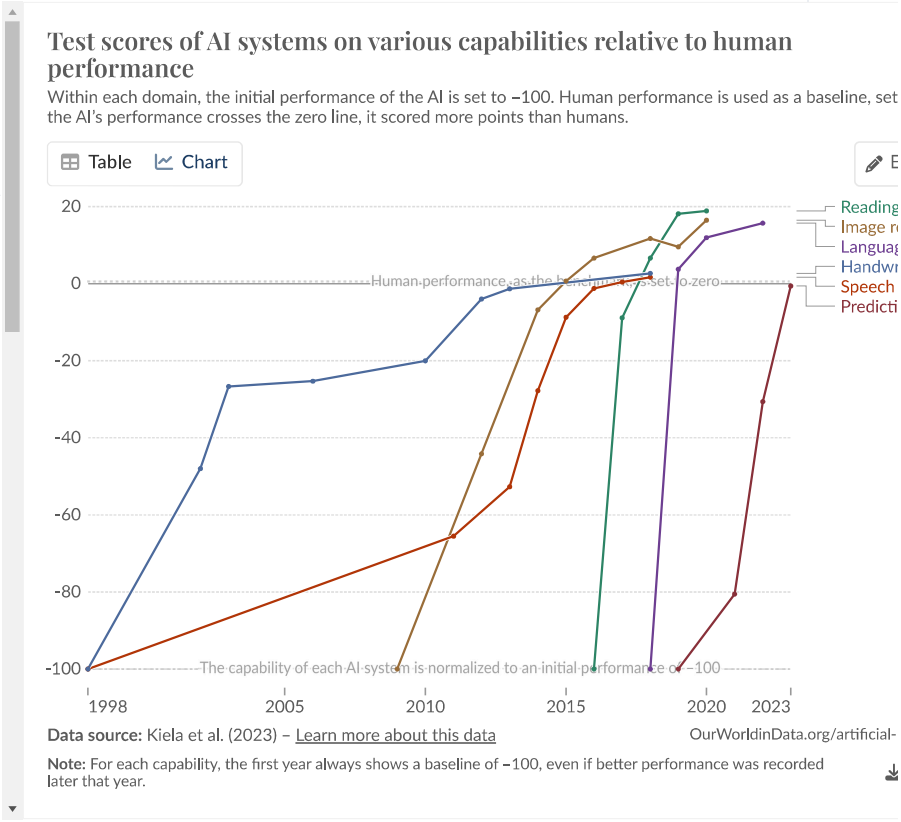
AI systems perform better than humans in language and image recognition in some tests

The language and image recognition capabilities of artificial intelligence (AI) systems have developed rapidly.

This chart zooms into the last two decades of AI development. The plotted data stems from several tests in which human and AI performance were evaluated in different domains, including handwriting recognition, speech recognition, image recognition, reading comprehension, language understanding, and predictive reasoning.

Within each domain, the initial performance of the AI is set to −100. Human performance is used as a baseline, set to zero. When the AI's performance crosses the zero line, it scored more points than humans.

Just 10 years ago, no machine could reliably provide language or image recognition at a human level. However, AI systems have become much more capable and are now beating humans in these domains, at least in some tests.



Research & Writing

How AI gets built is currently decided by a small group of technologists. As this technology is transforming our lives, it should be in all of our interest to become informed and engaged.

Max Roser

Despite their brief history, con important for the future of the

Max Roser

More Articles on Artificial Intelligence

Artificial intelligence has advanced despite having few resources dedicated to its development – now investments have increased substantially

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AI timelines: What do e

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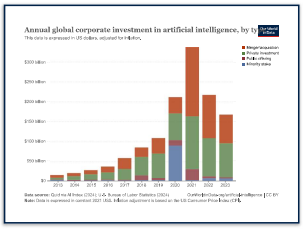
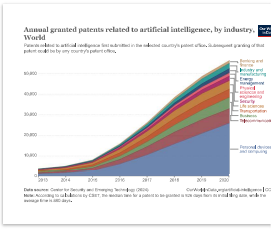
Interactive Charts on Artificial Intelligence



Annual global corporate investment in artificial intelligence, by type



Annual granted patents related to artificial intelligence, by industry

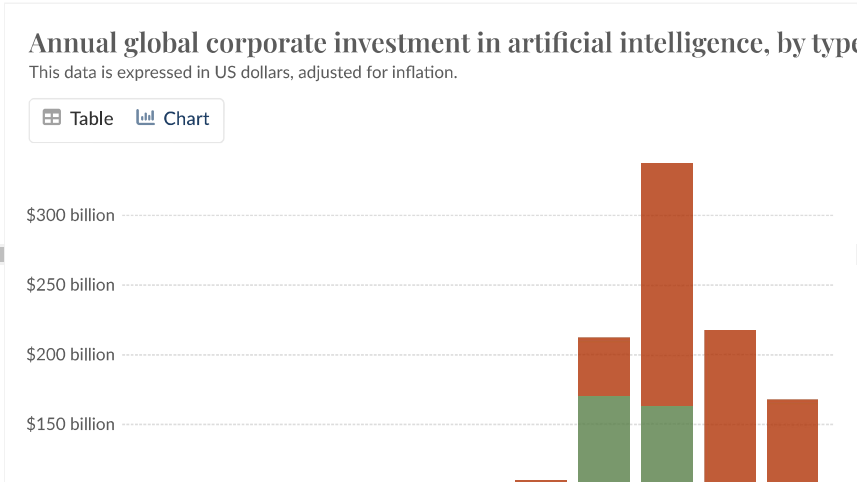


Chart 1 of 55

ENDNOTES

1. We write “hypothetical” because no single person could perform this well across such varied tests. The authors based their analysis on expert performance on a subset of the tests for which there is human performance data – with “experts” considered to have the 95th percentile scores – and imagined a hypothetical person who would perform at this very high level across all tasks.

2. Hendrycks, Dan, et al. "Measuring massive multitask language understanding." arXiv preprint arXiv:2009.03300 (2020). https://arxiv.org/abs/2009.03300

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