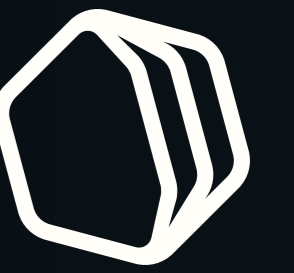




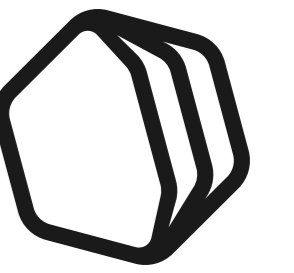
language.work

The AI Workforce





“We’re about to see a new economic frontier emerge, accompanied by disruption on an unprecedented scale”



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Foreword



The rapid advances in generative artificial intelligence have captured the world's imagination, but we are significantly underestimating its power and we are woefully unprepared.

An industrial revolution for knowledge work is now imminent, one that will trigger a fundamental transformation of the nature of work and companies. However, as our data shows, the focus on tools such as ChatGPT has masked the true power of AI.

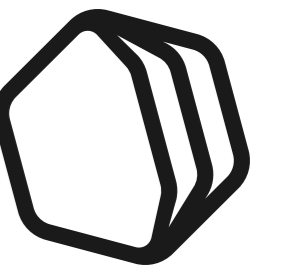
In reality, today's large language models (LLMs) are already capable of enabling widespread automation if they are leveraged effectively. And this won't just be roles dominated by monotonous and repetitive work, as had been predicted. AI will drastically increase productivity in fields where automation and economies of scale were previously very rare, across a huge variety of highly skilled, 'white collar' jobs.

This is a once-in-a-generation shift that will rewrite everything we know about technology, software, and human-computer interaction. We're about to see a new economic frontier emerge, accompanied by disruption on an unprecedented scale.

Urgent action is required.

Tariq Rauf

Founder and CEO, Qatalog



Survey: The ChatGPT effect

Since OpenAI's ChatGPT launched at the end of November 2022, interest in AI has skyrocketed. Investment and innovation has followed, with thousands of new tools and applications now available.

Qatalog surveyed knowledge workers in the US and UK in early November 2022, prior to the launch of ChatGPT, and then again in April 2023. The initial aim was to understand how workers thought about AI. However, the data now provides a snapshot of public sentiment before and after the launch of ChatGPT, which is likely to be the first time many were exposed to generative AI.

We see that knowledge workers are now more confident AI can help them work faster, but they are less confident in the ability of AI to fully automate their jobs, and the perceived threat level from AI has actually reduced.

Survey details:

DATES	Survey 1: November 2022
	Survey 2: April 2023
RESPONDENTS	2,600 (across both surveys)
REGION	US: 45%
	UK: 55%
GENDER	Men: 56%
	Women: 44%
AGE	21-34: 45%
	35-50: 38%
	51-65: 17%
POSITION	Management: 55%
	Individual contributor: 45%

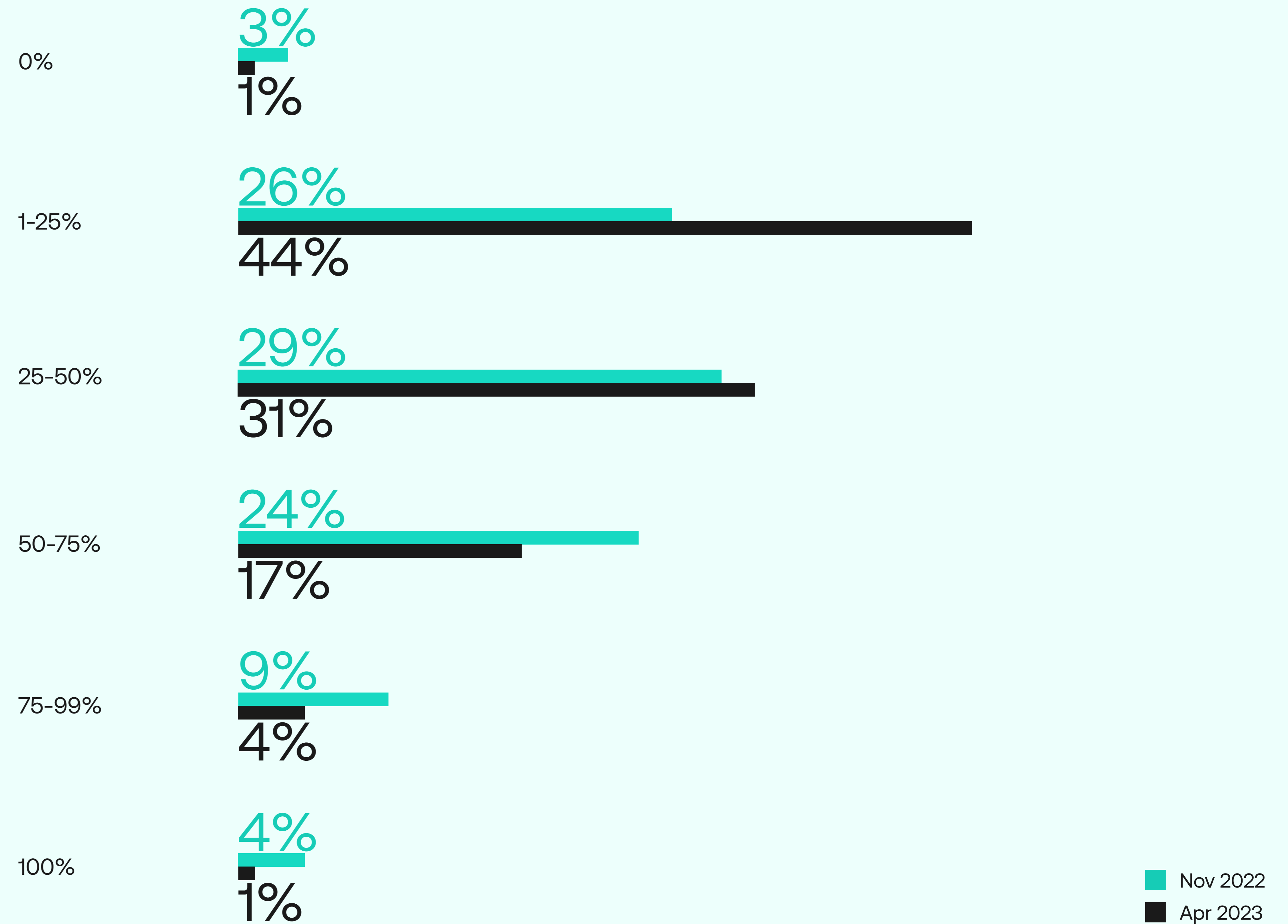
Surveys carried out by Attest and Prolific.

Survey: The ChatGPT effect

The proportion of people who think no part of their job can be automated has fallen, perhaps representing those who previously had almost no awareness of what AI could do. But equally, the number of people who think more than 50% of their job can be automated has fallen too, suggesting workers are actually less confident now they have been exposed to tools like ChatGPT.

What proportion of your job do you think could be automated with AI?

Total Responses: 2,600



Survey: The ChatGPT effect

The shift here is stark and indicates there has been a substantial loss of trust in AI since November 2022, both for making important strategic decisions, and writing important communications.

This may be a result of generative AI tools' propensity to 'hallucinate' and fabricate information in a very convincing way, meaning most workers are now unwilling to trust an AI without human oversight.

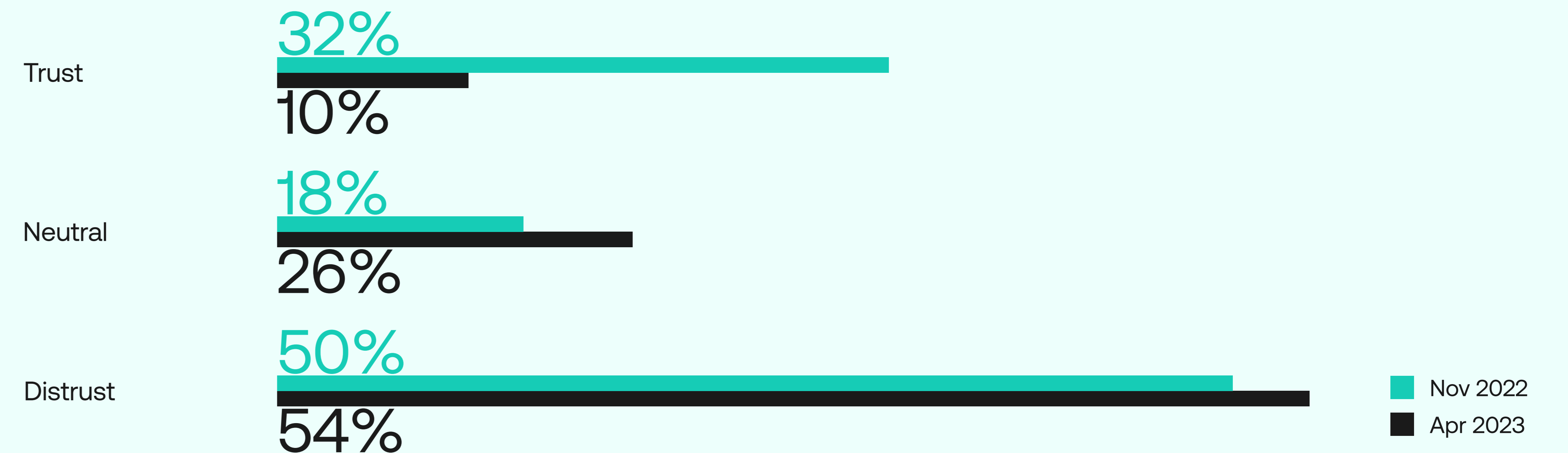
To what extent would you trust an AI to make important strategic decisions with zero human oversight?

Total Responses: 2,600



To what extent would you trust an AI to write an important email or memo, with zero human oversight?

Total Responses: 2,600



Survey: The ChatGPT effect

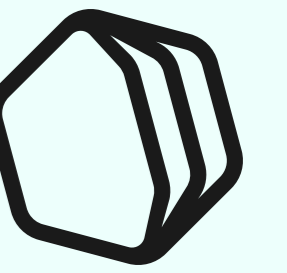
Productivity

By contrast, workers are now more confident that AI will help them work faster, with more than three quarters saying they think it would. This shows that this is really an issue of trust, because while people aren't ready to let AI automate certain tasks with no human oversight, the experience of using AI tools has proven they can provide a big boost to productivity.

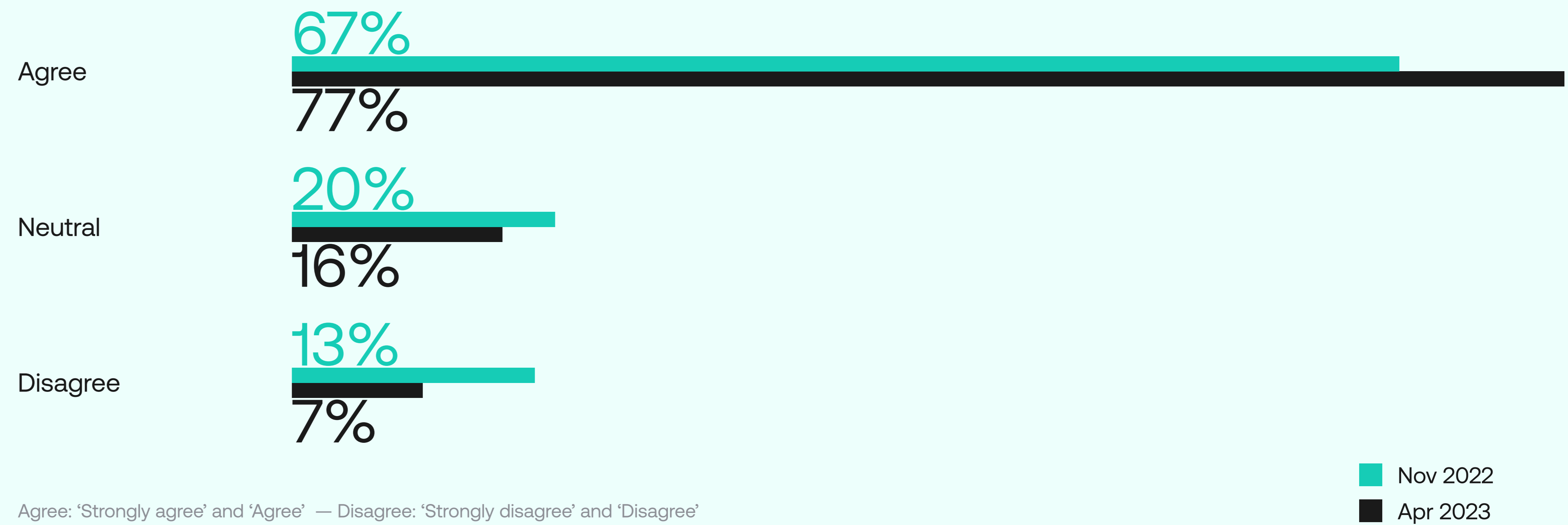
Friend or foe

The picture here is mixed. On the one hand, fewer people now see AI as an outright threat to their job. On the other hand, we also see an 11% jump in the proportion of people who said it was both a threat and opportunity.

To what extent do you agree that AI will help you work faster?



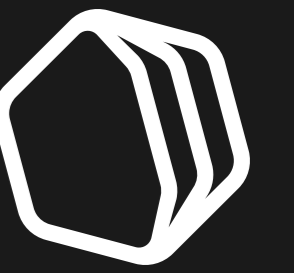
Total Responses: 2,600



When thinking about your job, do you view AI as a threat or an opportunity?

Total Responses: 2,600





A false sense of security

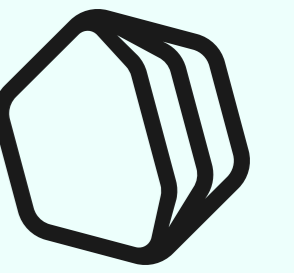
The survey data initially feels counterintuitive. You might reasonably have assumed that the explosion of AI tools would make workers significantly more fearful, with more confidence in AI automation.

However, it appears the dominance tools such as ChatGPT in popular discourse have proven a distraction. Workers have correctly identified that ChatGPT can help you work faster, but it cannot replace human labor on its own. It's also likely that ChatGPT's propensity to hallucinate has undermined trust in AI as a whole.

In reality, however, ChatGPT is not an accurate representation of AI and it has created a false sense of security.

The technology available today is already phenomenally powerful when applied correctly, but we're not seeing it leveraged to anywhere near its full potential on a wide scale yet. And it's only going to keep improving.

For now, as the data above shows, most workers still want a human 'in the loop'. But in the next phase of development, we'll see the AI systems deployed get a lot more sophisticated, with the right scaffolding and domain focused models. This will reduce the hallucinations and help to close the trust gap that has developed. Once that happens, which should not take more than 18 months from today, the opportunity for full task, or full role automation will increase substantially.



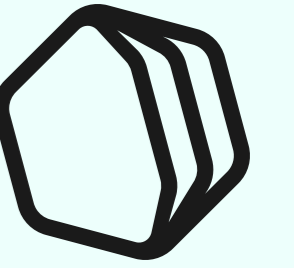
Short term vs. long term impact

Productivity growth is a key driver of increased living standards, but productivity has stagnated or declined across the globe for decades, despite technological advancements. This has been attributed to greater complexity in the workplace (partly due to technology) and the shift to knowledge and service-based economies, which are harder to quantify and optimize.

In this context, large language models have the potential to be the breakthrough we need. It may even represent the biggest productivity gain in human history. But in the short-term, there is the potential for a huge disruption and a profound economic shock.

Short term effects

Timeframe: 1-2 years



1

Task automation

- Specific functions and tasks will start to be automated with oversight and human support.
- These tasks will often be those which follow a defined structure, but may still involve elements of creativity, reasoning, and analysis.

2

Innovation and problem solving

- LLMs help to generate new ideas and solutions by fostering innovation and collaboration across diverse domains where humans would struggle to make the same connections.

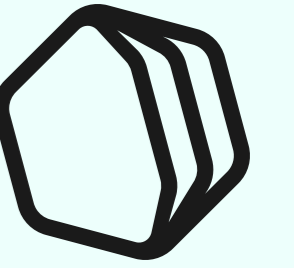
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Job displacement and unemployment

- Many jobs will be partially automated, leading to job losses and workforce restructuring, as fewer people are needed to produce the same output.
- Workers who can't adapt or upskill may find it hard to find new employment.

Short term effects

Timeframe: 1-2 years



4

Widening income and skill inequality

- The digital divide will widen, exacerbating social and economic inequalities.
- Those who are able to harness AI technology will see increased opportunities and income, while others fall behind.

5

Economic instability

- As businesses adapt to AI technology, traditional industries may face significant upheaval.
- Financial markets may experience volatility as a result, as industries adapt and transform.

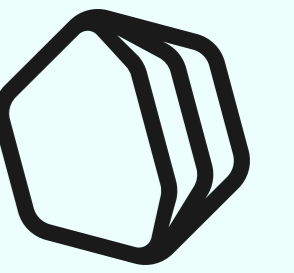
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Misuse of AI and ethical concerns

- AI technology can be exploited for malicious purposes, including disinformation, surveillance, fraud, and manipulation.
- We currently do not know all the ways in which this powerful technology could be misused and its ability to evade detection mechanisms could also lead to more long term harm.

Short term effects

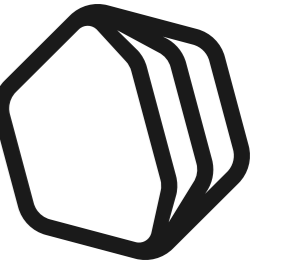
Timeframe: 1-2 years



7

Regulatory and legal challenges

- New laws will be required to govern AI applications, on issues such as bias, privacy, fairness, privacy, and labor rights.
- But policymakers may find it difficult to navigate the complex and fast-evolving landscape of AI technology and its implications.



1

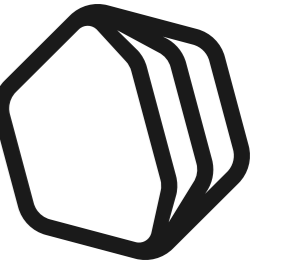
Automation and complex problem-solving is democratized

- LLMs will simplify computing, allowing users to undertake complex computational tasks (such as programming or software assembly) with zero technical expertise.
- This opens the door for individuals and businesses to solve complex problems and automate difficult tasks that previously didn't have the skills or resources to do so.

2

Human progress accelerates dramatically

- Once leveraged to their full potential, LLMs will allow individuals and small teams to operate at much greater scale and achieve more with less, leading to an explosion in productivity.
- Human ambition will be amplified, expanding the scale and scope of what is possible by orders of magnitude.
- This will lead to a rapid acceleration of progress across a broad range of objectives and initiatives.



3

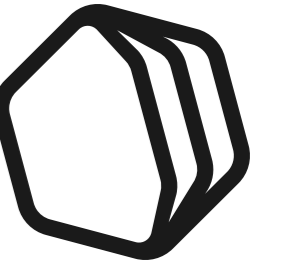
Role automation

- Autonomous AI agents with domain focused training will allow for entire roles to be automated.
- Operating independently, agents will move beyond rule-based tasks to completing complex multi-step processes defined by objectives.
- This doesn't mean humans will be eliminated entirely from certain roles, but humans will shift towards oversight and managing the more niche cases.

4

A new era of human-computer interaction

- AI will transform the way individuals and organizations interact with technology.
- Complex interactions and user interfaces that require training and understanding will become a thing of the past. Instead, users will be able to command sophisticated interactions using natural language and AI powered suggestions that understand your role and likely intentions.



5

Organizational restructure and fresh job creation

- Businesses will adapt to this new reality and restructure themselves accordingly. LLMs will act as the engine at the core of the business supporting almost all departments.
- This will see a swathe of entirely new categories of job emerge that require a highly skilled workforce to oversee and make use of AI technologies.

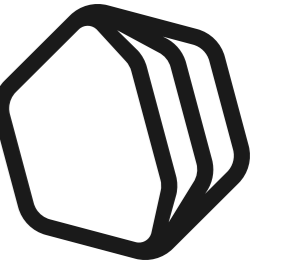
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Exacerbated global inequality

- Countries from across the economic and development spectrum will have access to LLMs, creating a host of significant benefits.
- However, it's likely that richer nations (and their populations) will have more computing power, more powerful models, and highly specialized solutions.
- Unless addressed, this imbalance will deepen inequalities due to AI's widespread use in key areas such as education, health, government, and business.

Long term effects

Timeframe: 3-5 years



7


Entrenched biases

- Today's LLMs are already trained on the many existing biases (both explicit and implicit) in society, which acts to perpetuates them.
- Given the potential for this technology to underpin the creation of lots more content (new training data) and the stacking of models and training data sets, these biases could become entrenched.

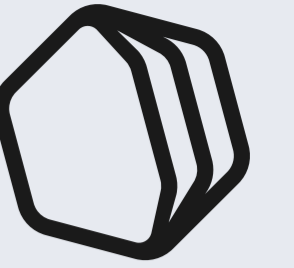
8

The unknown risks

- This is a powerful novel technology that will impact almost every facet of society and there will be a multitude of consequences, both good and bad, that we simply cannot envision.



“The genie is out of the bottle and it’s clear that we need an urgent focus on how society can adapt to this new reality”



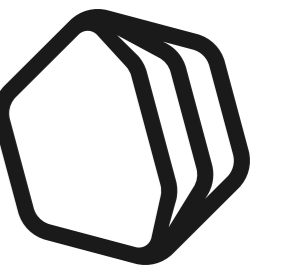
Mitigation vs adaptation

When people talk about the risks of climate change, there is a fierce debate about whether we should focus on mitigating climate change, or adapting to it. Most scientists now agree that we need to do both, as it's now too late to entirely prevent significant global warming.

There are parallels to be drawn with the current debate in AI, where the creation of artificial general intelligence (AGI) is viewed by some as an existential threat. For the last decade, experts have warned that humanity should focus on preparing for AGI. More recently, however, we've heard lots of prominent voices advocating for the development of AI to be slowed down or paused.

However, both camps ignore the danger that's already present, because today's technology is already capable of causing significant economic disruption described above, and it's only going to improve. The only way to mitigate this would have been regulation, but that window has already closed, because this technology is now open-source and easily accessible.

The genie is out of the bottle and it's clear that we need an urgent focus on how society can adapt to this new reality and what economic restructuring needs to happen to ensure society as a whole is able to benefit.



Adapt or die

Swift action is imperative, because it's likely that this transformation will happen faster than we think, and much faster than industrial revolutions of the past, making it more difficult for people, institutions, and industries to adapt.

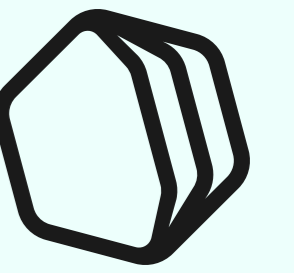
It's likely that a significant portion of the impact will be felt within 18 months. Within that time frame, vast numbers of roles will become partially automated, with many of the menial tasks eliminated.

Humans will shift towards more complex, higher-level tasks that are more meaningful and cannot be easily automated. To remain competitive in the labor market, the ability to wield AI tools effectively will be critical, and there will be a need to up-skill rapidly or retrain.

But it's not just individuals that will need to adapt. Companies will need to do so too, in order to avoid being overtaken by more efficient AI powered competitors. To leverage AI effectively, businesses will need to train their own domain focused AI models, which requires large amounts of data.

To make this possible, data capture will become even more important, requiring entirely new ways of operating and radical new structures, with the AI model acting as a powerful engine that supports the entire business.

This transition will see fierce competition for talent, as demand for those who have the technical skills to design, build, and implement AI tools and models will far outstrip supply.



A 'pandemic style' response

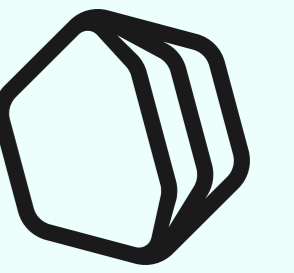
It's clear from the survey data that knowledge workers are oblivious to what is about to happen. More worryingly, however, governments also appear to be behind the curve, with most focused on trying to support innovation, or grappling with data protection issues. None appear to be seriously considering the fundamental level questions of how we are going to adapt to this new reality.

When the covid pandemic emerged in early 2020, governments across the globe recognised the danger and acted swiftly to protect people's health and the economy.

Strict lockdowns were imposed, and trillions of dollars were made available across the globe to support businesses and households and avoid economic disaster. That is the scale of action required right now.

Regulatory guardrails will still be crucial, but it's simply too late to prevent widespread access to the technology, so we'll need to invest significant resources and accelerate regulation which protects against the negative effects.

A 'pandemic style' response



Actions that governments around the world could be taking:

Research

Research will be required to better understand:

- Which types of role are at highest risk of automation
 - How human and financial capital requirements change for businesses
 - Where human input will be most valuable
 - The potential impact on disinformation and fraud
 - The risk of perpetuating and entrenching existing biases
-

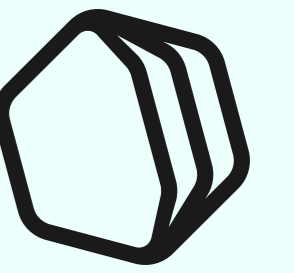
Reskill the workforce

Provide comprehensive skills, training, and support for those working in jobs or sectors at highest risk of being automated. This should involve how to manage and leverage AI tools, as well as enhancing human skills, such as creativity, empathy, and critical thinking.

Societal education

Mass education will be needed at all levels to help society understand how these systems work, as well as their strengths, their limitations, and the risks (such as disinformation). It should also talk about how society is likely to change, as well as providing reassurance and guidance on how best to navigate this shift.

A 'pandemic style' response



Actions that governments around the world could be taking:

Integrate AI into the education system

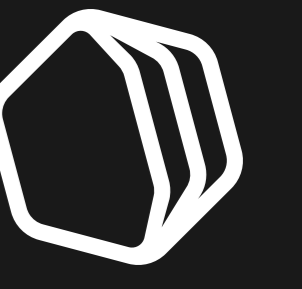
Rather than worrying about cheating in exams or homework, AI should be carefully integrated into the curriculum to ensure students are equipped with the necessary skills for an AI driven world. It will also become a powerful tool to enhance teaching and enable interactive and individualized learning.

Invest in nation-level capabilities

Governments around the world must be galvanized to provide nation-level capabilities of this technology, for two reasons. Firstly, to avoid a situation whereby powerful AI models are only available through a small number of private entities. And second, to reduce the inevitable inequity whereby richer nations have access to more powerful, specialized models, the consequences of which will be enormous.

Global research and policy task force

Create a global institution (similar to CERN) comprising experts from various disciplines and fields. It would be responsible for developing frameworks and policies to ensure the responsible and ethical use of AI, as well as leading on research to ensure valuable research is shared globally.



What do you think?

This is our view on what the future could look like, but we want to know what you think.

Tag us using @qatalog and #AIworkforce to share your predictions on how AI could change the way we work, and how we can prepare for what's coming.





It's time for a new language of work.