

Will the bots take all our jobs?

The relentless march of generative AI promises big changes for society and the economy, reports **Katie Prescott** in the second of a three-part series

The same question is being asked in the City and in Westminster, in boardrooms and on the shop floor: how will generative AI shape the workforce?

In an eye-catching announcement in May, BT said that it would replace 10,000 jobs with artificial intelligence by the end of the decade, which would include call handling and network diagnostics. The decision exemplified the fear in some quarters that generative AI will upend the labour market and make human beings redundant.

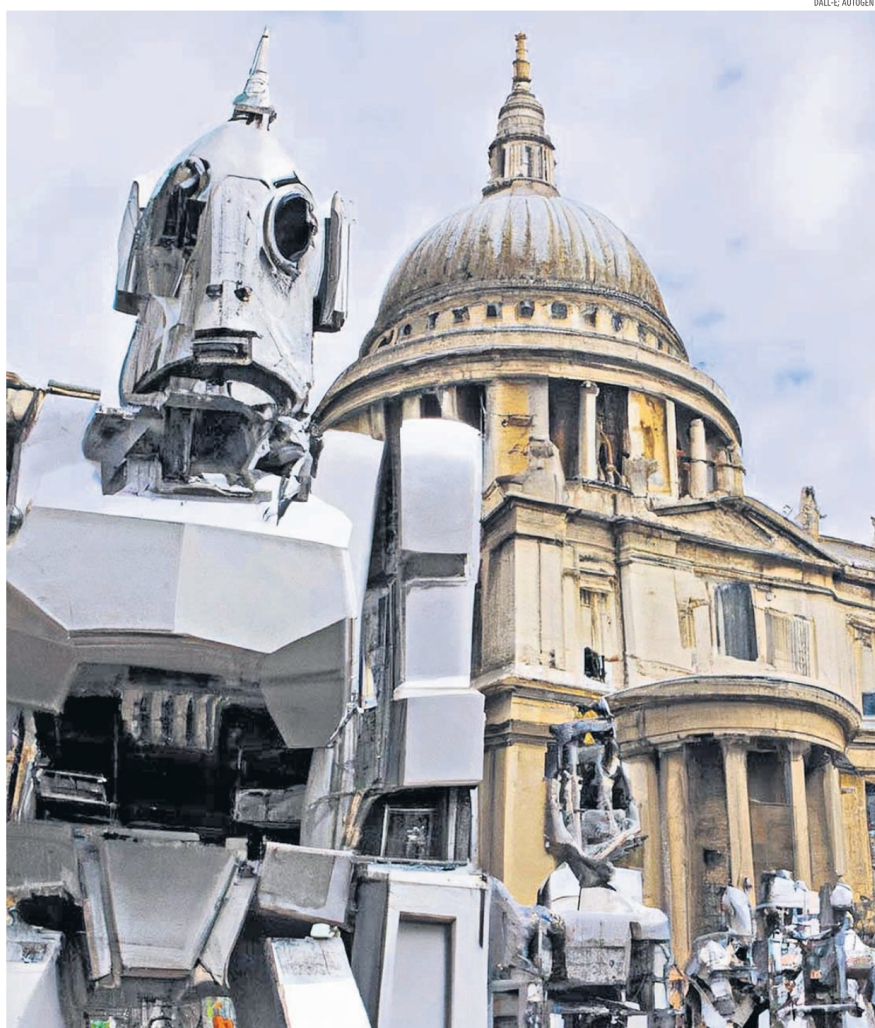
According to Ajay Chowdhury, the chairman of Cambridge Enterprise, Cambridge University's commercialisation body, call handling is an easy change to make. "Companies can cut their customer support staff by 30 per cent to 40 per cent and increase customer satisfaction tremendously," he said. "If you're interacting with a very well-trained chatbot instead of a human being, it remembers all your interactions, even if you called six months ago, it gives you good results and it can, for example, follow up with you by email."

The pace of change since the release of Open AI's ChatGPT last November has been so rapid that most research papers into the impact of AI on jobs are already out of date. A few have been published since. In April a report by Goldman Sachs, the investment bank, predicted that 300 million full-time jobs and two thirds of occupations could be partially done by machines. McKinsey, the consultancy, agreed that by about 2045 "current generative AI and other technologies have the potential to automate work activities that absorb 60 per cent to 70 per cent of employees' time today".

Research from Deloitte, the professional services group, has found that "by 2035 AI could boost UK labour market productivity by 25 per cent" and that "four out of five UK organisations said that use of AI tools had made their employees more productive, improved their decision-making and made their process more efficient". As a result, alternative jobs will come to the fore, with Goldman Sachs optimistically concluding that "jobs displaced by automation have historically been offset by the creation of new jobs and the emergence of new occupations".

In a study by IBM, the technology powerhouse, this month, it was said British executives think that 41 per cent of their workforces will need to update or change their skills over the next three years. Even this week, analysts at Jefferies, the broker, noted: "While AI appears destined to replace some menial, repeatable and lower-skilled roles, we expect that AI will benefit job growth in the near term as AI technology leads to new product offerings and entirely new businesses." Yet the transition will be painful, according to McKinsey: "The expected business disruption from Gen AI is significant and respondents predict meaningful changes to their workforces."

Gaurav Dhillon, chief executive of SnapLogic, a new AI business, and the founder of Informatica, the technology group, has seen several technological revolutions during his career. This one, he believes, "is like the dawn of the trac-



The march of the robots has become the march of the chatbots and may transform how we work and live. This image was generated by Dall-E with the prompt "invasion of hundreds of giant robots in the city of London ode St Paul's Cathedral"

Answering the question isn't as easy as it seems

Open AI's ChatGPT, Meta's Llama and other "large language models" that power generative AI chatbots are trained on reams of copy from the internet, allowing them to detect language patterns and to "predict" sentences in a human-like fashion (Katie Prescott and Adam MacVeigh write).

At present, it takes vast computational power and a long time to enter new text into its pattern recognition, which is why ChatGPT's data is relevant only up to 2021. Companies are racing to minimise the time that this training takes to get closer to real time.

If you consider something as widely referenced as the Bible, the model needs to be trained to know whether a user asking a question

about it is referring to a specific passage rather than to something else, such as a list of online quotes or a joke book. Models such as ChatGPT try to infer context from the given prompts. However, they don't "know" in the way that human beings do; they predict based on patterns in their training data.

They compare the vocabulary and structure of your question to that within their training data: the more relevant information is contained in your prompt, the more likely the model will return something with the correct context. How you ask the question, and the more detail you can give the model, is all-important because it directs it to the right data to use.

This "prompting" has led to speculation that one of the hottest jobs in technology is starting to be the "prompt engineer", a specialist in knowing how to direct the LLM to produce the right outcome. Yet experts say it gets you only halfway there a lot of the time. Often you need a deep understanding of code to fill in the gaps.

LLMs can augment human capabilities, allowing professionals to focus on higher-level tasks. An analogy would be how calculators didn't replace accountants but rather enhanced their efficiency and accuracy.

Adam MacVeigh is principal AI technologist, News UK

tor. It lowers the price of mediocrity, but raises the price of real talent. Is the obituary writer out of business? No, because wit, humour, insight is still required."

Nonetheless, some onlookers anticipate a societal revolution. Vinod Khosla, the businessman, venture capitalist and co-founder of Sun Microsystems, told the *On* technology podcast that AI would lead to fewer jobs but would increase productivity so greatly that it would lift economic growth. There would be greater redistribution of wealth to even out income equality and he predicted that in 25 years' time,



Vinod Khosla, the technology tycoon, thinks AI will increase economic growth

Speeding up at Capita

Case study

Britain's biggest outsourcer is working with global technology groups including Microsoft to test how generative AI could make its work more efficient (James Hurley writes).

According to Jon Lewis, the chief executive of Capita, technology businesses are keen to work in partnership with the contractor to develop advanced AI tools that can be applied to large data sets, given Capita's significant market share. He said there was potential for the tools to improve the efficiency of its outsourcing contracts, which include medical record screening, pensions administration and assessing appeals on speeding fines.

"Our agents screen about 20,000 medical records a year, whether for administration of personal independence payments or when people are seeking to join the army," he said. "That's an enormous amount of information to manually wade through. Generative AI will be able to pull out key summaries in fraction of the time so the human agent is left with more time to deduce the best solution. It means more time for higher-value activities for colleagues and they love that."

Capita screens 40,000 challenges a month from drivers seeking to overturn penalty charges. Lewis said that in this area Capita expected AI to improve productivity by about 50 per cent. He said that with improved efficiency there was some risk of job losses, but there was also the potential for job creation in new areas.

64 per cent of all jobs would be capable of being done by AI: "There will be enough to afford a minimal standard of living for everyone, to pay them to live or do things that are useful, but not in today's jobs."

The potential for AI in Britain, where workers are in short supply, is huge. Unemployment remains close to a record low and the number of job vacancies is high. However, unions are concerned about the technology being deployed unchecked. The TUC has warned that surveillance technology and a lack of transparency around AI at work could lead to widespread discrimination and unfair treatment.

Similarly, a recent research paper by the House of Commons Library recommended that ministers introduce "a requirement on businesses to conduct impact assessments to understand the scope and consequences of the use of new technologies in the workplace".

Change is coming, but with the technology still developing, it may be slower than we think. And that leaves questions still to be answered.

TOMORROW

Where and how does the UK excel at AI?