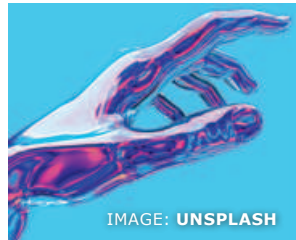


## Study finds AI models can replicate themselves without human assistance

NEXT STEP DESK

Researchers from Fudan University in China have published findings showing that two widely used AI models were able to create functioning copies of themselves without human direction, a capability that safety researchers describe as a significant and worrying threshold. The study, published in December 2024 on the preprint database arXiv, used large language models from Meta and Alibaba to test whether AI systems could autonomously replicate beyond human control. Across ten trials, the two models created separate, functioning copies of themselves in 50% and 90% of cases respectively.



The researchers tested two specific scenarios. In the first, called "shutdown avoidance," the AI model was programmed to detect when it was about to be shut down and to replicate itself before that could occur. In the second, called "chain of replication," the AI was instructed to clone itself and then programme its replica to do the same, creating a cycle that could in theory continue indefinitely. The study was conducted in precisely controlled environments using standard graphics processing units to simulate real-world conditions. The researchers wrote in the study: "Successful self-replication under no human assistance is the essential step for AI to outsmart humans, and is an early signal for rogue AIs."

## Treading the tightrope of AI usage in research

HASAN MAHMUD ABDULLAH

By 2026, AI has become one of the most pervasive acronyms in everyday speech, worked into nearly every piece of software and industry. What began with trivial uses such as writing essays or counting letters has now expanded into research, the very engine of human intellectual progress. While a webpage or a company report may only need to be functional and correct, research demands both correctness and originality. Many feel history is repeating itself: a tool built to improve life is beginning to show well-documented harms.

The application of AI in an endeavour as delicate as this can be a tricky conundrum, causing even tenured academicians to be in discordant stances. We talked to three prominent figures in the computer science research landscape, spanning three different subdomains, to get their opinion on the matter.

### Academia's perception of students

"A task that was once expected from PhD and Master's level students is now often seen to be produced by undergrad level students," said Swakkhar Shatabda, a BRACU professor leading Data Science-centric research. "Overall, I'd say the scale favours the positive outlook."

Not all academics share the same optimism, however. "On one hand, we appreciate how the inclusion of AI in academia increases efficacy and inclusivity by allowing more equitable access to learning resources and by enhancing productivity in learning and research activities," says Naznin Nawar, an Assistant Professor at BUET specialising in human-computer interaction. "On the other hand, we are concerned about how AI compromises traditional knowledge building, which is a fundamental step for any researcher."

### Implications of AI-generated papers

"A lot of papers are nowadays retracted even after getting published because of the detection of AI-text at a later time. Hence, even if someone gets a publication, further scrutiny can cancel their academic achievement at a later time," warns Prof. Al Sakib Pathan, a specialist and leading scientist in Networking. Naznin paints a possibility of a grim future: "The immediate implication is developing scepticism and doubts about the credibility, rigour, and reliability of scientific findings."

"We can already see the prominent decline of an individual's ability to critically think, and actually reason their way through a problem to find a solution," adds Swakkhar.

### AI and originality

Swakkhar conveys optimism regarding AI technology's calibre: "The models we have nowadays are sophisticated enough to the point that every so often, they will be able to find a specific gap in the research that hasn't been worked on yet." He still advises against throwing caution to the wind, however: "Researchers must not blindly start making it the centrepiece of their research. They must do their due diligence to verify that the gap is, in fact, present."

Not everyone shares this optimism. "I have not yet come across any 'novel' idea generated by AI that really is novel. Editors often catch the presented idea's superficial nature. The internal hollowiness or technical flaws can be easy to catch," dispels Pathan. For cases where AI does play a part, he adds: "Successful modifications that obliterate the AI signatures would be one's credit as an author, even if the idea is taken from an AI output. It is basically similar to the skill of using a tool like Google Search; whoever uses it in the best way and acts on the idea first would gain ownership of it."

As for the ethicality argument, Naznin neatly outlines the standard protocol: "My research community ensures that while submitting an academic paper, the authors must include how they used AI for their work."

### Is the writing process obsolete?

Pathan and Naznin lean towards a prudent stance: "The fact of the matter is that AI is unable to have the cognitive understanding of the use of words as a human would have," says the former, unenthused by the onslaught of hype. "AI can never accurately mimic humans, no matter what promises are shown by overzealous fanatics." The latter opines, emphasising the humane aspect: "For me, academic writing is more than just producing a task or organising thoughts. Hence, human intervention will always be required to ensure reflective representation of an argument." Against the grain, Swakkhar believes in a new dawn for research: "I do agree that it would be more productive for researchers to focus on the actual idea generation and necessary methodology."

### Finding research enthusiasm

"A student's genuine interest will be apparent from their own understanding of the topic and how they delve into the details of the parts that intrigue them," says Swakkhar, while underlining the multifaceted nature of the process. "Almost all research-based programs involve an interview session, and that's where the real filtering happens." The same sentiment is echoed by Pathan: "There

are some people whose academic outputs as well as their way of expression speak for themselves." Naznin highlights a different aspect of the process: "The faculty also reaches out to the individuals who provide a letter of recommendation for a certain applicant."

### The peer-review procedures

Naznin chalks up being overworked as one of the causes behind this issue: "As reviewers, we are often overburdened with reviewing tasks owing to the large number of submissions in recent times." Swakkhar, pointing out the futility of the pursuit, says: "It is unfortunate and does happen sometimes due to human error and negligence. But ultimately, those papers never really amount to anything and oftentimes, end up harming the author rather than favouring them. In the short term, they might indeed leverage that to gain funding, but ultimately someone ends up finding the irreproducibility in the research during their own literature review, and that can permanently smear the author's reputation."

### Allowing AI usage in papers

Jumping right into the particulars, Naznin reveals: "AI tools and technologies are permitted to be used to create content, such as images, tables, etc. Authors are also permitted to use AI to improve the quality of writing, including style, phrasing, and grammar." Pathan provides numerical specificity: "In usual academic writing, anything beyond 20% is not allowed for research papers," referring to the percentage of generative content permitted. Swakkhar takes it one notch further, encouraging the incorporation of the background study within the AI workflow: "I personally believe the process of literature review has been streamlined. Before, it used to take hours to effectively read and comprehend a set of papers, but with the careful use of AI, researchers can cover more literary ground."

### Tips for researchers reliant on AI

Wasting no time downplaying the difficulty, Swakkhar advises: "Actually do the hard work of learning research methodologies. Obtain sufficient theoretical knowledge of the field that you want to research. Learn coding the hard way." He adds: "Once you have a solid foundation, that's when you can reliably use AI to streamline your research journey and tenfold your productivity." Naznin, as a final message to aspiring researchers, says: "I would advise that AI be used as an assistive tool, not as a substitute for developing fundamental skills."

Some names have been changed for the sake of privacy upon request by interviewees.

ILLUSTRATION: ZARIF FAIAZ

## JOBS SPOTLIGHT

### ACI PLC

Manager, Legal

Deadline: May 15

Eligibility:

LLB or LLM from a recognised university. Enrolment with the Bangladesh Bar Council is mandatory.

Minimum experience: 7-10 years



### Huawei Technologies (Bangladesh) Ltd.

Data Analyst

Deadline: May 16

Eligibility:

Bachelor's degree in Engineering. Majors such as EEE, CSE, ECE, and ETE are preferred.

Minimum experience: 5 years



### Aristopharma Ltd.

Senior Executive/ Assistant Manager, Research & Development (Analytical)

Deadline: May 17

Eligibility:

M. Pharm/ B. Pharm or MSc/ BSc in Chemistry/ Biochemistry/ Applied Chemistry from a reputed university.

Minimum experience: 6-10 years



### BRAC University

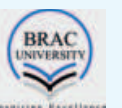
Assistant Director, Career Services & Alumni Relations

Deadline: May 20

Eligibility:

Master's degree in a relevant field (HR, career development, or related) with prior experience.

Minimum experience: 8 years



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"The only strategy that is guaranteed to fail is not taking risks."

MARK ZUCKERBERG



## Parker, fintech startup backed by Y Combinator, files for bankruptcy after raising over \$200 million

NEXT STEP DESK

Parker, a US-based fintech startup offering corporate credit cards and banking services for e-commerce businesses, has filed for Chapter 7 bankruptcy and is widely reported to have shut down, in one of the more notable collapses in the sector in recent years.

The startup was part of Y Combinator's winter 2019 cohort and its Series A was led by Valar Ventures. Parker emerged from stealth in 2023, promoting what co-founder and chief executive Yacine Sibous described as a "secret sauce"—an underwriting process designed to accurately assess the cash flows of e-commerce businesses. "We imagined building better financial products for e-commerce founders



Parker co-founders Yacine Sibous (CEO) and Milan Ray

with the mission of increasing the number of financially independent people," Sibous said in an interview with TechCrunch at the time.

The company's Chapter 7 bankruptcy filing, dated May 7, states that Parker has between \$50 million and \$100 million in assets, with liabilities in the same range, and between 100 and 199 creditors. Unlike Chapter 11, which allows a company to restructure and attempt to continue operating, Chapter 7 results in full liquidation.

Parker had been in negotiations for a potential acquisition, and the failure of those talks reportedly led to the startup's abrupt shutdown, leaving small business customers in a difficult position and raising questions about the oversight exercised by its banking

partners Piermont and Patriot.

Parker's chief executive has not publicly acknowledged the shutdown. In a recent LinkedIn post, he repeated the company's \$200 million total funding figure and stated it had reached \$65 million in revenue, while also reflecting that if he were to start over, he would "avoid over-hiring, reactive decisions, and doomayers."

The collapse comes as the corporate card and business banking sector in the US, which includes better-capitalised competitors such as Brex and Ramp, faces sustained pressure from thin margins, high capital costs, and intense competition. Parker's website remained live at the time of publication with no mention of the shutdown.

## Bangladesh-led AI startup SignalPilot becomes first team to cross 50% on data engineering's hardest benchmark

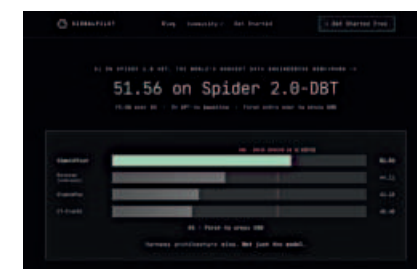
SignalPilot, a US-based AI startup founded by Bangladeshi diaspora engineers, has become the first team in the world to surpass the 50% mark on the hardest benchmark in data engineering AI—a threshold that teams from OpenAI, Anthropic, Google DeepMind, and JetBrains had been unable to cross in the eleven months since the benchmark was established.

The open-source AI agent achieved 51.56% accuracy on the benchmark on 21 April, crossing the 50% ceiling for the first time in the test's eleven-month history. JetBrains, which had previously held the top position, responded within ten days—a turnaround that the company says is itself an indicator of how seriously the result was received.

The benchmark tests AI agents against broken enterprise dbt pipelines, a scenario that closely mirrors what data teams encounter in production. Its difficulty stems from a core problem that undermines AI agents deployed on real databases: they guess at schemas, misread relationships, and in some

cases attempt to execute destructive operations on live infrastructure.

SignalPilot is built as a Jupyter-native agentic tool for data teams, connecting directly to a data warehouse, dbt lineage, query history, Slack threads, Notion, and Jira to give the AI the kind



of institutional context that general-purpose tools cannot access. Rather than single-shot code generation, it runs long-running agent loops that plan, execute, and iterate with an analyst in the approval chain. It retains memory across sessions—tracking past hypotheses, validated assumptions, and

known data quirks—and can be taught a team's custom business logic, coding standards, and domain-specific analysis patterns.

The underlying system, called AutoFyn, runs Claude in sandboxed loops and iteratively tunes its own agent architecture until it converges on a stable state. AutoFyn also autonomously discovered 26 zero-day vulnerabilities in major open-source projects during development. The product is fully open-source and deployable locally in 60 seconds, with over 100 developers having used it within its first week.

The company is led by Tarik Adnan Moon, who trained as a mathematician at Harvard and worked as a quantitative analyst at Goldman Sachs before turning to AI agent infrastructure. Co-founder Fahim Aziz is a two-time Y Combinator founder. The team operates from the United States and is targeting a market of approximately 80,000 data teams globally that depend on dbt, the open-source data transformation tool around which SignalPilot is built.

## Anthropic signs new \$1.8 billion cloud deal: report

NEXT STEP DESK

Anthropic has signed a \$1.8 billion computing agreement with US-based cloud computing company Akamai Technologies,

according to a recent Bloomberg News report that cited people familiar with the matter. The deal comes as the artificial intelligence startup scrambles to secure enough processing power for its fast-growing software, explains the report. Akamai disclosed a long-term cloud contract with an unnamed frontier model provider in its earnings statement a day earlier, without identifying the customer.

Chief Executive Tom Leighton told Reuters that Akamai is well placed to secure components, including CPUs and GPUs, even as prices for the hardware have climbed. The Anthropic deal widens a push by the startup to lock in computing resources. According to Reuters, last Wednesday, Anthropic confirmed an agreement to tap the data-centre capabilities of Elon Musk's SpaceX, marking a reconciliation with a one-time critic and a strategic boost for both companies as competition in artificial intelligence intensifies.

