

Press Release from the German Mathematical Society

Are Individual Technology Companies Using Artificial Intelligence to Take Over Mathematics?

The pressure on everyone involved in mathematics is enormous: In July 2026, AI has been used to disprove the 87-year-old Jacobi conjecture, and in September, the so-called “Millennium Problem” of the Navier-Stokes equations was reportedly proven. Now OpenAI claims to have cracked 372 difficult mathematical puzzles virtually overnight. But is this even true, and what does it mean for mathematical research?

Berlin, October 7, 2026. The development and training of AI models currently rely in part on attempts to solve mathematical problems. Successes—or near-successes—in this area have been making headlines in the media for months. Even though mathematicians generally welcome the major advances in their field brought about by artificial intelligence (AI)—and in some cases use AI themselves—it is often overlooked that mathematics is being misused by some technology companies to demonstrate the power of AI models. Furthermore, upon closer examination of these “successes” by researchers in mathematics, it often turns out that not all of the achievements communicated by tech companies are actually what they claim to be—as is the case with the Navier-Stokes equations. Additionally, two mathematicians who were slightly faster feel they have been overlooked.

„Copyright is indeed a fundamental problem,” says Jürg Kramer, president of the German Mathematical Society (DMV). This is because AI models typically use existing knowledge unfiltered and without authorization—including knowledge stored on so-called preprint servers that has not yet been reviewed by experts in the relevant field and found to be correct (peer review process). Aside from the theft of intellectual property, this also means that such knowledge has not yet been validated and should therefore be treated with caution when used as evidence. The unchecked processing of any research publications by AI is already leading to a situation where researchers in mathematics are no longer posting their work in progress online, whether on preprint servers or on their own blogs. “This significantly slows down progress in mathematical research and prevents an open exchange within the mathematical community—an exchange that has been and remains of central importance to the advancement of the field,” says Kramer. In the future, traditional academic publishers could take on a new role here, as they only publish work that has been deemed sound through a peer-review process, and these results are then behind a paywall that AI models cannot yet easily circumvent.

On the other hand, AI has so far operated in a purely results-oriented manner, which is only of limited value to mathematics. This is because mathematical research is not about providing a proof for this or that mathematical problem as quickly as possible, but rather about applying or developing new methods along the way and thus providing the proof in an efficient (and “elegant”) manner, rather than simply relying on maximum computational power (brute force). This is also important because the next generation of mathematicians must be trained precisely in these methods in order to achieve lasting (sustainable) success in mathematical research. “These developments are shaking the very foundations of mathematical research as we know it, and should be actively shaped for the benefit of the field and future generations,” Kramer concludes.

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