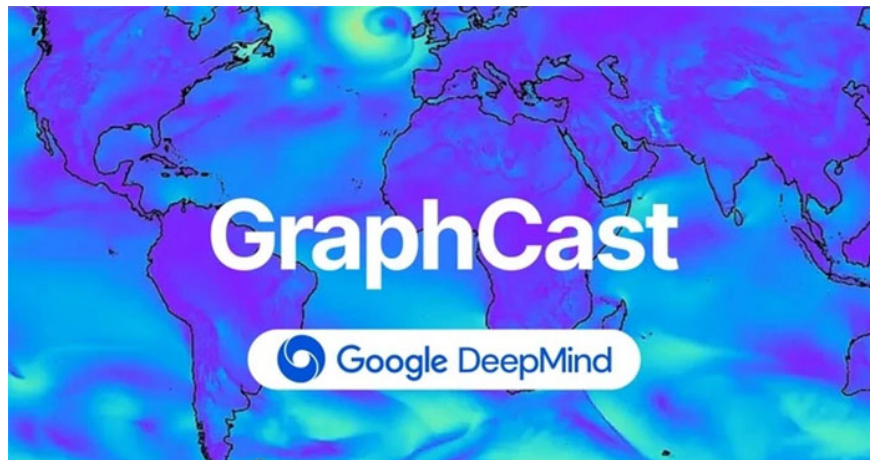


AI predicts storms 10 days in advance, with outstanding results

AI GraphCast - Google's artificial intelligence tool can accurately forecast the path of a hurricane 10 days in advance and produce results that outperform existing tools.

This open source solution also holds promise for identifying and visualizing dangerous events, with just a single computing power.

AI GraphCast was developed by the team at Google DeepMind. The tool was trained on decades of weather data and about 40 years of reanalysis of satellites, weather stations, and radar.



This artificial intelligence tool operates on a principle that contrasts with the big data approach of numerical weather prediction (NWP) models, which use large amounts of information related to thermodynamics, fluid dynamics, and atmospheric sciences.

To produce results, NWP requires powerful processing power, which is resource-intensive and time-consuming. To produce a 10-day weather forecast, the old technology required hundreds of servers and hours of work.

Meanwhile, GraphCast with a basic Tensor Machine can provide high accuracy results in just one minute. GraphCast can determine and predict the exact path immediately by uploading the storm tracking algorithm and applying it to the available parameter set.

In tests, GraphCast achieved an efficiency of up to 90%. GraphCast beat the industry-standard HRES (Hearing Forecast System) by an astonishing 99.7%, which is limited to the Earth's troposphere. The team emphasized that this AI tool is capable of detecting the risk of forming a dangerous event, which older tools cannot do.

Google DeepMind's tool accurately predicted the trajectory of Hurricane Lee nine days before it made landfall in Nova Scotia, Canada, in a field test at the European Centre for Hydrometeorological Forecasting in late 2023. Other programs were less accurate, predicting landfall just six days in advance.

GraphCast is an open source project, organizations around the world can use and improve it for forecasting purposes.

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