

Artificial intelligence could predict where earthquake aftershocks will strike

A new artificial intelligence is turning its big brain to mapping earthquake aftershocks. Scientists trained an artificial neural network to study the spatial relationships between more than 130,000 main earthquakes and their aftershocks. In tests, the AI was much [better at predicting the locations of aftershocks](#) than traditional methods that many seismologists use.

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Although it's not possible to predict where and when an earthquake will happen, seismologists do know a few things about aftershocks. "We've known for a long time that they will cluster spatially and decay over time," says geophysicist Susan Hough.

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[F]ault orientations in the subsurface can be as complicated as a three-dimensional crazy quilt, and stresses can push on the faults from many different directions at once. Imagine a book sitting on a table: Shear stress pushes the book sideways, and might cause it to slide to the left or right. Normal stress pushes downward on the book, perpendicular to the table, so that it wouldn't budge. Such a thorny computational problem may be tailor-made for a neural network.

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Another question is whether a forecast system that used such an AI could leap into action quickly enough after a quake for its aftershock predictions to be helpful.

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In the immediate aftermath of a big quake, such data wouldn't be available for at least a day.

Read full, original post: [Artificial intelligence could improve predictions for where quake aftershocks will hit](#)