

European Patent Office offers guidance on AI inventions

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The European Patent Office has for the first time released guidance which includes details of how to patent inventions created through artificial intelligence.

The 1 November guidance says AI and machine learning are types of mathematical methods, which can receive patent protection if they are used in a technical way to solve specific problems. The guidance marks the first time the EPO has addressed whether inventions created through the operation of companies' AI systems can receive IP protection.

The guidance says the algorithms and computational models are “per se of an abstract mathematical nature,” whether or not they can be “trained”.

The EPO's guidance says AI and machine learning are currently found in multiple technical disciplines, such as healthcare monitoring systems and automatic classification of images and audio. Patent examiners should be careful of expressions such as "neural networks" and "reasoning engine" in applications, the guidelines say, because these may indicate a generalised use of AI and machine learning, rather than the technical and specific use that is required for inventions to be patented.

The document also says steps taken to generate training sets can contribute to inventions' technical character, so long as they support its technical purpose.

Peter Finnie, a partner at Gill Jennings & Every in London, told GDR that this point has significant implications for companies looking to use artificial intelligence.

"The EPO do not think there is anything special about AI," he said. "They really don't care, they think it's an advanced mathematical method, but nothing more than that."

Instead, he said, the guidance is about the use of artificial intelligence and machine learning to create inventive solutions for technical problems. Using AI in a general way as part of a product does not warrant a patent, Finnie said. To be patented, an invention has to be "specific, not abstract and directed at the problem that you're trying to solve".

Andrew White, a patent attorney at intellectual property firm Mathys & Squire in London, said the inclusion of AI guidelines is still an important step that helps clarify the position of companies using the technology. White said the EPO has been receiving more applications relating to AI, with the guidance representing "a recognition by the EPO that there is increasing innovation in this area".

A notable inclusion, Finnie said, is the EPO's guidance on the "training" of algorithms. The guidance indicates that when inventive human effort has gone into algorithms in order to improve a process – for example by making it achieve the same results in less time – this may qualify for a patent, he said.

By making a technical alteration such as this, Finnie said, companies can cross the threshold into receiving patents because they have altered the final product. Businesses are also better off patenting the end result rather than the AI technology itself, Finnie said, as those platforms are likely to be protected by trade secrets which would have to be made public in order to become patented.

White noted that the trade secret issue also arises with most software innovations. "You need to disclose enough to get the patent granted, but that doesn't necessarily mean that you want to disclose the source code," he said. "There's always a trade-off."

Finnie said both the US Patent and Trademark Office and EPO require companies to name inventors – meaning that to some extent the AI platform, if it is the "inventor", may need to be revealed, potentially risking trade secrets. Finnie said this could be more of an issue in the US, where patents can be invalidated if inventor are misidentified.

White said the EPO guidance will “definitely” make decisions about AI inventions more predictable, especially compared to the position in the US.

A recent World Economic Forum paper that looked at the effect of artificial intelligence on the US patent system argued that the technology will be highly disruptive. Finnie noted that the EPO’s view, meanwhile, is that AI inventions can be tackled under the existing framework.

The guidance came into force from 1 November as part of the EPO's examination guidelines, which are updated each year.