HAL THE INNOVATOR: COMPUTATIONAL INNOVATION AND ITS PATENTABILTY IMPLICATIONS

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Big data and modern technology pose new challenges to the traditional paradigm of patentability. For example, U.S. patent law's definition of inventorship was not designed to address what IBM terms "computational creativity," which involves artificial intelligence using big data to generate novel ideas. In some cases, computational creativity may result in a computer innovating in ways traditionally accorded patent protection. Hal the Innovator refers to this phenomenon as "Computational Invention."

Courts have not yet grappled with the proper treatment for Computational Invention. A textualist statutory interpretation of the Patent Act prohibits listing a computer as an inventor, because U.S. (but not foreign) patent law requires a named individual inventor on a patent application. Yet a ban on computer inventorship would be akin to creating a new category of unpatentable subject matter in an area not contemplated by Congress. An alternate, dynamic interpretation of the Patent Act finds that permitting computer inventorship would further promote the progress of science and useful arts by incentivizing people to build computer systems that are capable of innovation.

Whether computers can legally be inventors is of critical importance for the computer and technology industries, and more broadly, it will affect how future innovation occurs. Computational Invention is already happening, and it is only a matter of time until computers are commonly innovating in ways traditionally accorded patent protection. In fact, it may be only a matter of time until computers are responsible for the majority of innovation.

Given the importance of these issues, there is a need for the U.S. Patent and Trademark Office to issue guidance in this area, for the Courts to decide whether Computational Invention is worthy of protection, and for Congress to reconsider the boundaries of patentability.

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