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IP CASE OF THE WEEK

In Mind or in RAM, a Better Algorithm is an Algorithm

In re Board of Trustees of the Leland Stanford Junior University, No. 2020-1012 (Fed. Cir. Mar. 11, 2021)

By: Ifti Zaim & Victoria Hanson | May 24, 2021

The Court of Appeals for the Federal Circuit ("CAFC") held unpatentable under 35 U.S.C. § 101 a Stanford University patent application (Application No. 13/445,925) ("the '925 Application") covering improvements to a method for analyzing genetic data because its innovation was to a mathematical algorithm rather than of a technological nature. This decision underscores a now familiar stroke on the map of Wonderland: that in order to be patentable, the claimed ***innovation*** should be technological. Improvements to a mathematical algorithm or method of mathematical analysis are not patent eligible on their own regardless of how momentous or scientifically significant the improvement may be. Further, in keeping with *Alice*, the decision reiterates that incorporating generic technological elements ancillary to the claimed innovation does not render the claim any less abstract or any more patentable.

On April 13, 2012, Stanford filed its '925 Application covering improvements to prior art methods of haplotype phasing, which is a process for statistically inferring aspects of the genetic makeup of an organism without having to specifically sequence and analyze its genome. Per the patent, prior art methods of haplotype phasing, drawing conclusions by predicting an inheritance state of the genetic data, could only achieve an approximately 80% prediction rate because inheritance state was uninformative in certain regions of the genetic data. Stanford's method purportedly increased the prediction rate to 97.9% by incorporating two additional types of data into the calculation that could inform the analysis in areas where inheritance state could not.

The PTAB determined that the method was not patent eligible subject matter. It stated that the steps in claim 1 (and the remaining claims in the application) were directed to either the "mental steps of receiving, storing, or providing information" or "mathematical concepts" and that the mathematical process recited in the claims was not integrated into a practical application. Further, the PTAB concluded that neither claim 1, nor the remaining claims included additional limitations that provided an inventive concept transforming the abstract idea into eligible subject matter for a patent.

The CAFC agreed, holding that claim 1 (and the remaining claims) were directed to an abstract idea and thus failed the first *Alice* step because, even if they did improve the haplotype phasing data, they constituted a "new or different use of a ***mathematical*** process" rather than "an improved ***technological*** process," and "[c]laim 1 recite[d] no concrete application for the haplotype phase beyond storing it and providing it upon request." The CAFC concluded that claim 1 failed *Alice* step two for a similar reason: it "recites no steps that practically apply the claimed mathematical algorithm" and instead merely stored the results and provided them on request. Further, the CAFC noted that even "the mathematical steps performed, and the types of data received, as claimed, are conventional and well understood in the prior art." Thus, the Court held that the claims failed both steps of *Alice* and affirmed the PTAB's rejection of the '925 Application.