

Standard Essential Patents for Artificial Intelligence Hardware and the Implications For Intellectual Property Rights

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Abstract : Standardization is a critical element in the ability of a society to reduce uncertainty, subjectivity, misrepresentation, and interpretation while simultaneously contributing to innovation. Technological standardization is critical to codify specific operationalization through legal instruments that provide rules of development, expectation, and use. In the current emerging technology landscape Artificial Intelligence (AI) hardware as a general use technology has seen incredible growth as evidenced from AI technology patents between 2012 and 2018 in the United States Patent Trademark Office (USPTO) AI dataset. However, as outlined in the 2023 United States Government National Standards Strategy for Critical and Emerging Technology the codification through standardization of emerging technologies such as AI has not kept pace with its actual technological proliferation. This gap has the potential to cause significant divergent possibilities for the downstream outcomes of AI in both the short and long term. This original empirical research provides an overview of the standardization efforts around AI in different geographies and provides a background to standardization law. It quantifies the longitudinal trend of Artificial Intelligence hardware patents through the USPTO AI dataset. It seeks evidence of existing Standard Essential Patents from these AI hardware patents through a text analysis of the Statement of patent history and the Field of the invention of these patents in Patent Vector and examines their determination as a Standard Essential Patent and their inclusion in existing AI technology standards across the four main AI standards bodies- European Telecommunications Standards Institute (ETSI); International Telecommunication Union (ITU)/ Telecommunication Standardization Sector (-T); Institute of Electrical and Electronics Engineers (IEEE); and the International Organization for Standardization (ISO). Once the analysis is complete the paper will discuss both the theoretical and operational implications of F/Rand Licensing Agreements for the owners of these Standard Essential Patents in the United States Court and Administrative system. It will conclude with an evaluation of how Standard Setting Organizations (SSOs) can work with SEP owners more effectively through various forms of Intellectual Property mechanisms such as patent pools.

Keywords : patents, artificial intelligence, standards, F/Rand agreements

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