A Computer Model Artificial Ideation Relying on a Temporal Fuzzy Vector Space

JOËL COLLOC

Professor in Computer Sciences, Physician UMR CNRS 6266 Laboratory Le Havre Normandy University 25 rue Philippe Lebon 76600 Le Havre, France

joelc76@wanadoo.fr

The most important challenge of artificial intelligence systems is not to reproduce and simulate intelligent human activities, but to equip them with this specifically human capacity to have thought endowed with the faculties of ideation and invention. In other words, can computers invent? After recalling some of the approaches used, this article proposes a simulation model of insight inspired by gestalt theory. Our approach is based on a model of a bifurcation of the thought system that indicates the sudden change in state that occurs when the idea erupts or the sudden understanding of an error or the discovery of a solution. A computer architecture is proposed to simulate this bifurcation that occurs in the flow of thoughts. It can be implanted using an extension of the time fuzzy vector space model that we already use for the implantation of medical knowledge bases. Finally, we discuss the ethical consequences of machines that would have inventive abilities independent of human thought.