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Functional Neural Network for Decision Processing: A Racing Network of Programmable Neurons Where the Operating Model Is the Network Itself

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Abstract : In this paper, we are introducing a model of artificial general intelligence (AGI), the functional neural network (FNN), for modeling human decision-making processes. The FNN is composed of multiple artificial mirror neurons (AMN) racing in the network. Each AMN has a similar structure programmed independently by the users and composed of an intention wheel, a motor core, and a sensory core racing at a specific velocity. The mathematics of the node's formulation and the racing mechanism of multiple nodes in the network will be discussed, and the group decision process with fuzzy logic and the transformation of these conceptual methods into practical methods of simulation and in operations will be developed. Eventually, we will describe some possible future research directions in the fields of finance, education, and medicine, including the opportunity to design an intelligent learning agent with application in AGI. We believe that FNN has a promising potential to transform the way we can compute decision-making and lead to a new generation of AI chips for seamless human-machine interactions (HMI).

Keywords : neural computing, human machine interation, artificial general intelligence, decision processing
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