



Towards Collective Intelligence

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Abstract: The underlying idea of the research presented here is connecting the intelligent entities – either living or artificial – into systems that act as a unit and that are smarter than their smartest individual elements. Collective decision making is common in human society. Human is a social being that conforms to the group or society. Decisions taken collectively may be better or worse than decisions taken by a selected individual and we search for methods of making better collective decisions. Our world is abundant with opinions and some of these were even produced by machines. We focus here on cooperation of intelligent entities in hybrid collectives. The application domains are aggregation of opinions using methods of computational intelligence and adaptive computer games in rehabilitation of motoric impairments. The reader is introduced to the state of the art in the fields of collective intelligence and computer aided rehabilitation. We present our research in the relevant fields and we present the idea of using collective intelligence in systems for adaptive rehabilitation. The long term goal is the development of a system for adaptive rehabilitation of multiple patients that utilizes computer games, learning algorithms and collective intelligence to achieve the maximal improvement in the physical and psychological state of the patients.

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