Resilience Engineering by the Management of Affordances – Application to Intelligent Transport Systems

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Abstract: This paper presents a framework for designing natural and sensible human-machine collaborations in the ITS domain. This framework uses the concept of affordances to manage the resolution of conflicts between agents that arise from their difference of perception of the situation. Predicates are defined to model affordances incorrectly perceived. Affordances dynamics are represented by a finite state automaton. An illustrative case is proposed to apply the proposed approach in terms of management of conflicts in perception between the agents.

Keywords: human-machine systems, affordances, resilience, intelligent transport systems, human-machine cooperation.