

**Pedestrian macroscopic models: game-theoretical versus mechanistic viewpoints**

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**Abstract:** Many Individual-Based Pedestrian models have been proposed in the literature. They can roughly be categorized in two classes: a first class considers pedestrians as rational agents able to optimize their trajectory in order to fulfil their goal [1]. The second class of models rely on a mechanistic view of agents reacting to close encounters like physical particles [2]. In both cases, we derive macroscopic models and discuss their similarities and differences.

[1] M. Moussaid, D. Helbing and G. Theraulaz, How simple rules determine pedestrian behavior and crowd disasters, Proc. Nat. Acad. Sci., 108 (2011), 6884–6888.

[2] J Ondrej, J. Pettré, A. H. Olivier and S. Donikian, a synthetic-vision based steering approach for crowd simulation, in SIGGRAPH'10, 2010.