Minimal-time Mean Field Games

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After presenting a brief introduction to the most typical Mean-Field Game problems, where agents solve an optimal control - or stochastic control - optimization problem involving the density of all other agents, I will concentrate on a particular instance that we recently introduced. It consists in problems where the goal of each agent is to escape from a given area in minimal time, but their velocity is bounded in terms of a decreasing function of the density they meet. I will explain the difficulties and the connections with the model for crowd motion introduced by Hughes, and then present some results (first in a non-local case without diffusion, and then in a local case with linear diffusion), mainly obtained in collaboration with G. Mazanti.

References

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