Interacting particles and optimization

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In this talk we will discuss the relationship of interacting particle systems and optimization from two viewpoints. The first one is optimization with the help of interacting particle systems. In more details, we will motivate and analyse the method 'Consensus-based optimization' [1, 2] which is a stochastic interacting particle scheme for global non-convex optimization problems. The second part focusses on the optimization of interacting particle systems. In particular, we want to address the question whether the well-known mean-field limit analysis can be transferred to optimization problems [3] and how this can be useful for numerical simulations [4].

References

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