

A number of optimization search algorithms exists that are inspired by nature or by the behaviour of animal species. At the same time, there is an active research of social networks going on that brings us knowledge about their structural properties. We join an inspiration from both those areas and develop the social interaction algorithm. It is based on genetic algorithms, its computation is led by a combinatorial graph, and operators are inspired by social networks and by human behaviour. The algorithm brings some original ideas and has its own specifics (such as no usage of selections, or a possibility to have individuals of various types in the population) and is open to extensions. In some cases, it is more efficient than other algorithms of similar type, especially in the final phase of the run. In this thesis we introduce all features of the social interaction algorithm and demonstrate its performance by experiments.