HILL CLIMBING ALGORITHM

Hill Climbing was one of the first existing stochastic optimization algorithms in the literature. The Hill Climbing method is also known as a local search method.

The iterative procedure is based on continuously improving the solution until the best solution is attained [1]. The process consists of generating random neighbors of the current solution, according to the equation (1), where \(\symbf{N}\) indicates a normal (or Gaussian) distribution where the mean \(\symbf{X\_i}\) is the current solution and \(\sigma\) is the standard deviation input by the user.

[1] Al-Betar MA. β -Hill climbing: an exploratory local search. Neural Comput & Applic 2017;28:153–68. https://doi.org/10.1007/s00521-016-2328-2.