The Hill Climbing method is an optimization technique used for local searches, which is one of the first methods of stochastic optimization together with simulated annealing. The difference between the HC (Hill Climbing) and the SA (Simulated Annealing) is that in this method, only movements that improve the objective function are accepted.

This procedure tries to find the improved neighboring solution from the set of the neighbors using any adopted acceptance rule such as first improvement, best improvement, random walk, or side walk [1].

HC is normally employed along with other optimization methods to improve the exploration and exploitation threshold.

Abaixo é apresentado o algoritmo do método de otimização HC:

In the case of this algorithm, the generation of neighbors is done randomly and follows a normal distribution where the mean is the value of x itself in the iteration. The value of SIGMA is the standard deviation informed 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.