hill ulimbing Algorithm in Al.

- > It is a local rearch Algorithm.
- > It continuously moves in the direction of investing value to find its peak of its mountain.
 - > Et finds the best solution to the problem.
- > . It iterminates when it reaches Regk value.
 - > It is mostly used when good heuristic is avoidable.

Features of hill elimbing:

> benerate redispose mit

> boreedy approach

> No beick Teacking. at

state - space diagram For hill of sold

objulive 1 A de mathopla Alfanilli Ma function. > It is no send season places for. shoulder work mum

Low plat " Local manis mum

State

S pace bose state state Manimum ; I ill the product of "> It is a state which is better than neighbor state.) But there is also a Change to another state which is Wegher than it.

Global Manumum:

It is the best passible is state space

7 It où la higest value

Current state:

> Et is a state in a Magram where the agent is correctly real date private its than all wars

no trade who state

> It is glat space.

Aul other neighbor states are

Types of hill dimbing Algorithm!

> simple hill climbing.

> steptest - Asient Well- elimbing

> Stochastic Hill illimbing.

gradually less trouble temple is 1. simple hill elimbing:

> It is a simple way to implement a hell alimbing Algorithm.

podees ed the curat sole -

- > It cheeks the neighbor node and Selett the yeart one as the current state.
- belter that the current state then move to the next state.

Algarithm: was prop to the

- 1. breats current, relighbor, would node
- 2. If survient hode in the goal node
 - shen neturn. 3. Else suvorent roole L2 heighbor roole more ahead.
- Le. Loop until the goal node is reached: Del Satistated ?
- 2. Stepest Axent Will Wimbing!
- > It is a variation of simple hill wimple hill with the climbing. Algorithm.
 - > It checks all the neighbouring nodus of the current state.

- y and eselect one of the heighbor node which is closely to the goal state.
 -) It consumes more Time.

Algorithm:

- 1. treate a current, coal node.
- 2, 24 current node = broad hade, return goal node. and Terminate:

1 - municos hon

- 3. Loop until a better node in not yound to view the solution.
- 4. If there is any better node is present, expend 1%.
 - 5: when the goal in reached, victions goal and Terminate.
- 3. Stochastic hill elimbing:
 - > It does not focus all rette nodes.
 - > Et voleites one node at vandom and decides whether ut Should be expanded or wearch for a better one.

Problems in Hill limbing Algorithm: which which local Marimum: Lad Marine. Lord Mariner consult rate from est deserve of abal alled just in Plateau to by how and rounizate 3. Aldges: primile bit itabile It does to specie but a dear me atal, to de soul such brus paralle in ward

- simulated Annealing:
 - > Et us vimilar to the hill dlimbing Algorithm.
 - > It yields both afficiency and completiness
 - In mechanical term Annealing,

 in a process of hardering a metal
 or ofcers ito a high temperature then
 cooling gradually, so their allows the
 metal to visit a dow-energy
 drystal state.
 - Same procus used un simulated

 Africalling. In which the Algpieles the vandom move, invested
 of picking a best move.
 -). If vandrom move improves the state from gollows the same path, otherwise. It gollows a path which is class than probablity of 1.