

Subject

Advanced Machine Learning

Class Assignment

Unit IV

Swarm Methods

Session 11

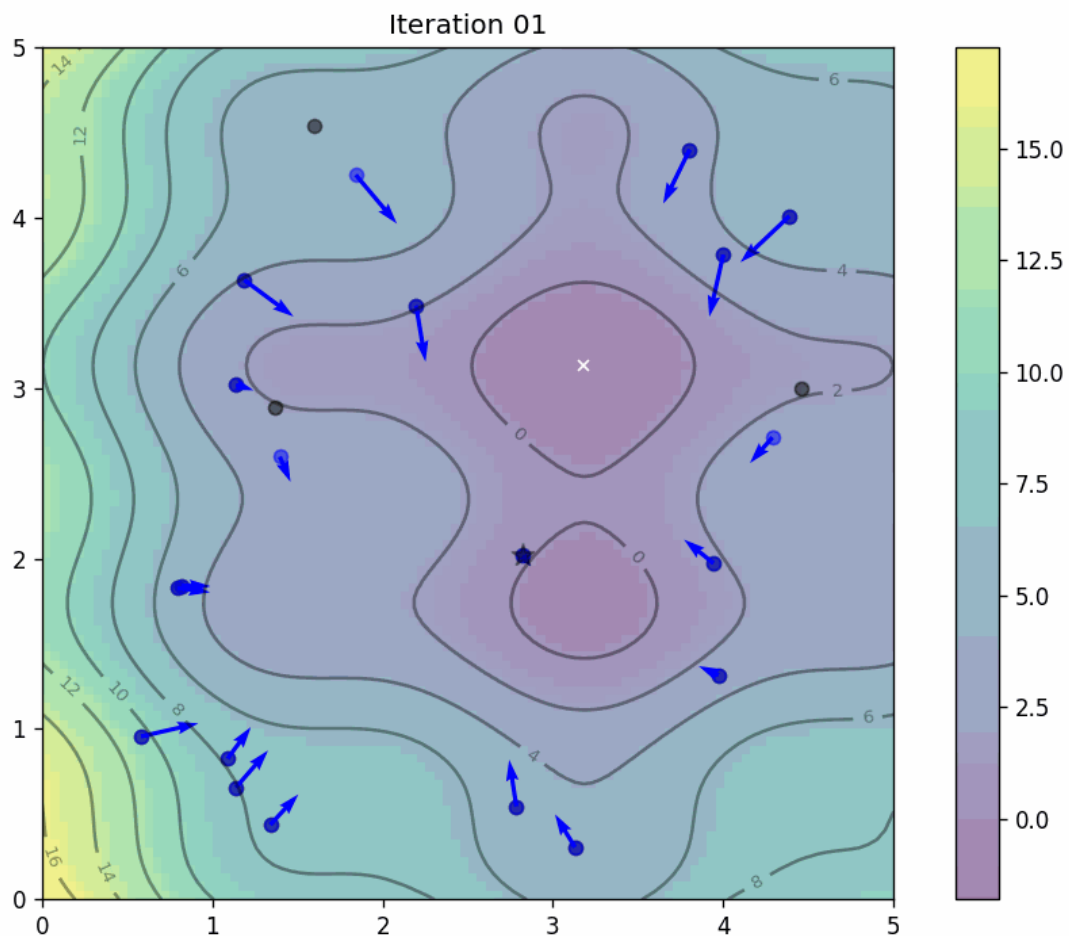
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1 Activities.

You will form groups of 3 during the rest of the class and you will have to do the following work:

Design and implement a PSO algorithm to optimize nonlinear functions like

$$(x - 3.14)^2 + (y - 2.72)^2 + \sin(3 * x + 1.41) + \sin(4 * y - 1.73)$$



Here you can see the value of each local minima and the global minima:

https://www.wolframalpha.com/input?i=Minimize%5B%28x+-+3.14%29%5E2+%2B+%28y+-+2.72%29%5E2+%2B+sin%283*x+%2B+1.41%29+%2B+sin%284*y+-+1.73%29%2C+%7Bx%2C+y%7D%5D&lang=es

- 1) Research on PSO implementations

- 2) Design your class structure before coding
- 3) Try to implement a simple solution without any visual implementation (You can always copy the one I gave you on the virtual campus but the code is very ugly)
- 4) Present it the next class as you wish in no more than 5 minutes (This should include all 3 previous steps)