Optimisation scenarios

6/6 points (100.00%)

Quiz, 6 questions

✓ Congratulations! You passed!

Next Item

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Quiz, 6 questions

1.
Given the following contour plot,
Which starting points (from 1 to 5) are likely to converge to the global minimum (shown by the mobile phone) when using a steepest descent algorithm?
Starting point 1
Correct
In this case, the algorithm descends smoothly down the slope.
Starting point 2
Un-selected is correct
Starting point 3
Correct In this case, the algorithm descends smoothly down the slope.
Starting point 4
Correct In this case, the algorithm descends smoothly down the slope.
Starting point 5
Un-selected is correct
None of the above

Un-selected is correct

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Optimisation :	scenario:	S

Optimisation	on scenarios	6/6
Quiz, 6 questions	2. Again, which starting points converge to the global minimum?	
	Starting point 1	
	Un-selected is correct	
	Starting point 2	
	Un-selected is correct	
	Starting point 3	
	Correct This should converge to the global minimum.	
	Starting point 4	
	Correct This should converge to the global minimum	
	This should converge to the global minimum.	
	Starting point 5	
	Correct This should converge to the global minimum.	
	None of the above	
	Un-selected is correct	

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Optimisation scenarios		
Quiz, 6 questions	3. Which starting points converge to the global minimum?	
	Starting point 1	
	Un-selected is correct	
	Starting point 2	
	Correct From here, the algorithm will descend the hill to the global minimum.	
	Starting point 3	
	Un-selected is correct	
	Starting point 4	
	Un-selected is correct	
	None of the above	

Un-selected is correct

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Quiz, 6 questions

4. What's happening in this gradient descent?

\bigcirc	The algorithm is getting stuck near saddle points.
	The global minimum is in a wide and flat basin, so convergence is slow.
Corre This	ect could be improved by increasing the aggression.
\bigcirc	None of the other options.
\bigcirc	The algorithm is getting stuck near local minima.

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Optimisation sce	narios

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What is happening here?

\bigcirc	There is noise in the system.
\bigcirc	The algorithm is passing either side of a local maximum.
\bigcirc	The algorithm is passing either side of a local minimum.
\bigcirc	The algorithm is passing either side of a saddle point.
Corre	ect
\bigcirc	None of the other options.

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Quiz, 6 questions

6.

What is happening here?

\bigcirc	The marked points are saddle points.	
\bigcirc	There is noise in the system	
\bigcirc	None of the other options.	
\bigcirc	The Jacobian at the starting point is very large.	
Correct This is causing the algorithm to overshoot. In one case into a different basin.		

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