SGD Convergence guarantees

1/1 point (graded)
Which of the following option(s) is/are true about training neural networks?
(Choose all that apply.)

- [ ] For multi-layer neural networks, stochastic gradient descent (SGD) is guaranteed to reach global optimum
- [x] For multi-layer neural networks, stochastic gradient descent (SGD) is not guaranteed to reach a global optimum ✔
- [ ] Larger models tend to be harder to learn because their units need to be adjusted so that each one of them can individually solve the task
- [x] Larger models tend to be easier to learn because their units need to be adjusted so that they are, collectively sufficient to solve the task ✔
- [ ] Initialization plays no or very little role in finding a good solution during training of neural networks

✔

Solution:

- For multi-layer neural networks the loss function is no longer convex and any stochastic gradient descent (SGD) method is not guaranteed to reach global optimum
- Larger models tend to be easier to learn because their units need to be adjusted so that they are, collectively sufficient to solve the task

Submit You have used 1 of 2 attempts

ℹ Answers are displayed within the problem

Discussion

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Topic: Unit 3 Neural networks (2.5 weeks):Lecture 9. Feedforward Neural Networks, Back Propagation, and Stochastic Gradient Descent (SGD) / 3. Training Models with 1 Hidden Layer