



Deadline: You must submit this week's assignments by **February 25, 2018, 11:59 PM PST**.



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#### THIS WEEK'S FORUM

## Week 2

Discuss this week's modules here.

[Go to forum](#)

## Optimization algorithms

### Learning Objectives

Remember different optimization methods such as (Stochastic) Gradient Descent, Momentum, RMSProp and Adam

Use random minibatches to accelerate the convergence and improve the optimization

Know the benefits of learning rate decay and apply it to your optimization

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### Optimization algorithms

[Start Lesson](#)

Mini-batch gradient descent 11 min



Understanding mini-batch gradient descent 11 min

- ▶ Exponentially weighted averages 5 min
  - ▶ Understanding exponentially weighted averages 9 min
  - ▶ Bias correction in exponentially weighted averages 4 min
  - ▶ Gradient descent with momentum 9 min
  - ▶ RMSprop 7 min
  - ▶ Adam optimization algorithm 7 min
  - ▶ Learning rate decay 6 min
  - ▶ The problem of local optima 5 min
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## Practice Questions

- **Quiz:**  
Optimization algorithms 10 questions Due in 5 days
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## Programming assignment

- ⌌ Optimization 2h
  - **Programming Assignment:**  
Optimization 30 min Due in 5 days
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## Heroes of Deep Learning (Optional)



Yuanqing Lin interview 13 min