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Week 2

Custom and Distributed Training with TensorFlow

Week 2

Discuss the topic here.

2 threads · Last post a month ago

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Custom Training



This week, you will build custom training loops using GradientTape and TensorFlow Datasets. Being able to write your own training loops will give you more flexibility and visibility with your model training. You will also use a function to calculate the derivatives of functions so that you don't have to look to your old calculus textbooks to calculate gradients.


[^](#) [Less](#)

Learning Objectives


- Define the steps in a custom training loop
- Implement custom training loops using GradientTape
- Implement a custom training loop with data from TensorFlow Datasets


[^](#) [Less](#)


Custom Training Loops

[▶](#) **Video:** Custom Training Loop steps 3 min[Resume](#)[▶](#) **Video:** Loss and gradient descent 4 min[▶](#) **Video:** Define Training Loop and Validate Model 2 min[▶](#) **Video:** Training Basics code walkthrough 5 min **Lab:** Training Basics 1h

Custom Training with TensorFlow Datasets

[▶](#) **Video:** Training steps and data pipeline 4 min[▶](#) **Video:** Define the training loop 4 min[▶](#) **Video:** Gradients, metrics, and validation 4 min **Reading:** Reference: tf.keras.metrics 10 min[▶](#) **Video:** Custom MNIST Custom Training Loop code walkthrough 30 min

 **video:** Fashion MNIST Custom Training Loop code walkthrough 15 min

 **Lab:** Fashion MNIST using Custom Training Loop 1h

Week 2 Quiz: Custom training

 **Quiz:** Custom Training 7 questions Due Mar 22, 1:59 AM CDT

Assignment: Breast Cancer Prediction

 **Programming Assignment:** Breast Cancer Prediction 1h Due Mar 22, 1:59 AM CDT

