Week 3

Custom Models, Layers, and Loss Functions with TensorFlow

Week 3

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Custom Layers

Custom layers give you the flexibility to implement models that use non-standard layers. Practice building off of existing standard layers to create custom layers for your models.

Learning Objectives

- Define a custom layer to include the activation function
- Define a custom layer class by inheriting from the Layer class
- Describe the two components of a custom layer
- Describe what a custom layer can do that a lambda layer cannot
- Use a lambda layer to customize a network layer

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Custom lambda layers

▶ **Video:** Intro custom layers   43 sec   [Resume]

▶ **Video:** Introduction to Lambda Layers   2 min

▶ **Video:** Custom Functions from Lambda Layers   1 min

▶ **Video:** Exploring custom Relu with Lambda Layers   4 min

▭ **Lab:** Lambda layer   1h

Implementing Custom Layers

▶ **Video:** Architecture of a Custom Layer   2 min

▶ **Video:** Coding your own custom Dense Layer   4 min

▶ **Video:** Training a neural network with your Custom Layer   2 min

▶ **Video:** Custom Layer code walkthrough   5 min
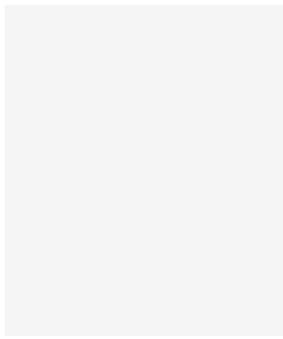
▭ **Lab:** Custom dense layer   1h

Activating Custom Layers

▶ **Video:** Activating your Custom Layer   3 min

▶ **Video:** Custom Layer with activation code walkthrough   3 min

▭ **Lab:** Activation in a custom layer   1h

Week 3 Quiz: Custom layers

Quiz: Custom Layers 5 questions   Due Mar 29, 1:59 AM CDT

Assignment: Custom Layers

Programming Assignment: Implement a Quadratic Layer 3h   Due Mar 29, 1:59 AM CDT

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Assignment: Custom Layers

Programming Assignment: Implement a Quadratic Layer