



## Overview

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## Week 2

Generative Deep Learning with TensorFlow

### Week 2

Discuss the topic here.

3 threads · Last post 2 days ago

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### Week 2: AutoEncoders



This week, you'll get an overview of AutoEncoders and how to build them with TensorFlow. You'll learn how to build a simple AutoEncoder on the familiar MNIST dataset, before diving into more complicated deep and convolutional architectures that you'll build on the Fashion MNIST dataset. You'll get to see the difference in results of the DNN and CNN AutoEncoder models, and then identify ways to denoise noisy images. You'll finish the week building a CNN AutoEncoder using TensorFlow to output a clean image from a noisy one!

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### Learning Objectives

- Build your first AutoEncoder with TensorFlow
- Build an AutoEncoder on MNIST
- Build a DNN AutoEncoder on MNIST
- Build a CNN AutoEncoder on Fashion MNIST
- Build a Noisy CNN AutoEncoder on Fashion MNIST


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### What Are AutoEncoders?


**Video:** Introduction 4 min[Resume](#) **Video:** First AutoEncoder 4 min **Lab:** First Autoencoder 1h **Video:** MNIST AutoEncoder 3 min **Lab:** MNIST AutoEncoder 1h

### Deep AutoEncoders

**Video:** MNIST Deep AutoEncoder 2 min **Lab:** MNIST Deep AutoEncoder 1h **Video:** Convolutional AutoEncoder 4 min


 **Lab:** Fashion MNIST - CNN AutoEncoder 1h

 **Video:** Denoising with an AutoEncoder 2 min

 **Lab:** Fashion MNIST - Noisy CNN AutoEncoder 1h


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## Quiz Week 2: AutoEncoders

 **Quiz:** AutoEncoders 5 questions Due Mar 29, 1:59 AM CDT

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## Assignment: AutoEncoder

 **Programming Assignment:** AutoEncoder Model Loss and Accuracy 1h Due Mar 29, 1:59 AM CDT