



## Deep Learning with MATLAB

This one-day course provides a comprehensive introduction to practical deep learning using MATLAB. Attendees will learn how to create, train, and evaluate different kinds of deep neural networks.

Topics include:

- Using convolutional neural networks (CNNs) for image classification, regression, and object detection
- Deep learning for audio signals / sequence data (LSTM networks)
- Modifying common network architectures (Transfer Learning) or creating new networks from scratch to solve custom problems
- Improving the performance of a network by modifying training options
- Deploying a trained CNN to a standalone embedded CPU/GPU or server

### Pre-requisites

MATLAB programming experience

### Teaching method

The course combines lectures, demonstrations and a lot of practical exercises in MATLAB.

The course is in Hebrew, but the training materials are in English.

### Course Syllabus

- ✓ Introduction to deep learning – 1 hour
- ✓ Investigating pre-trained classification networks + modifying them (Transfer Learning) – 1 hour
- ✓ Creating a CNN from scratch – 1 hour
- ✓ Image regression networks – 1 hour
- ✓ Labeling tools + object detection networks – 1 hour
- ✓ Deep learning for audio signals / sequence data – 1 hour
- ✓ Deployment of a trained CNN – 1 hour

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