



## Course Title:

### **Deep Learning with MATLAB**

## Course Purpose:

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



- ✓ 1 training days
- ✓ Hours: 09:00-17:00
- ✓ Total training hours: 8

## 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. The course focuses on image processing and computer vision applications (for other applications- please consult our training center).

עמוד מס' 1

### **Training Center Systematics - Contact information:**

**Phone number:** 03-7660111 Ext: 5 **Email:** [training@systematics.co.il](mailto:training@systematics.co.il)

**Website:** <http://www.systematics.co.il/mathworks>



## 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 .

עמוד מס' 2

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