

Deep Learning CS 236606 Syllabus למידה עמוקה

The course introduces techniques and principles of “deep learning” — a branch of machine learning concerned with the research, development and application of deep artificial neural networks that are characterized by multiple layer architectures. Deep neural networks implement high capacity models capable of automatically extracting hierarchical representations of data, and enable state-of-the-art performance in many interesting applications such as image recognition, speech recognition, language translation, and autonomous driving. The course will address a range of topics from basic neural networks, convolutional and recurrent network structures, visualizing convolutional networks, unsupervised learning, generative adversarial networks, and deep reinforcement learning. The course will also introduce the main ideas behind various applications in machine vision, text processing, image captioning and autonomous driving. Homework will include both dry and wet exercises. Wet exercises will require Python proficiency.

Lecturer: Professor Ran El-Yaniv

Teaching Assistants: Yonatan Geifman, Izik Golan

Credit points: 3 (2 hour lecture and 1 hour tutorial each week)

Prerequisite courses (enforced):

- Introduction to Machine Learning 236756 or
- Introduction to Machine Learning 046195

Python programming proficiency: the course will require substantial proficiency in Python programming.

Grading: The final grade will be based on a combination of homework assignments (both dry and wet) and a final exam. The precise grading scheme will be announced.

Time/Location: to be announced