Department of Electrical Engineering
Technion—Israel Institute of Technology
Signal Acquisition Modeling and Processing Lab - המעבדה לדגימה מידול ועיבוד אותות

NEW

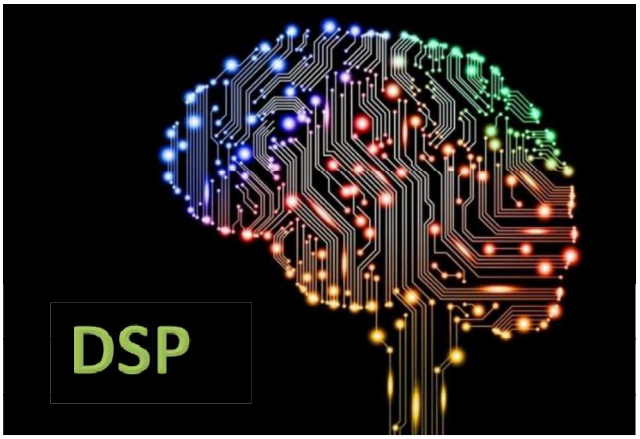
DEEP LEARNING OF SIGNAL PROCESSING CONCEPTS

Supervisor: Dr. Satish Mulleti

Project description:

Signal processing concerns the analysis, synthesis, and modification of signals. With the advent of digital computers, in the last six decades, digital signal processing (DSP) algorithms have been developed for several applications such as denoising, detection, estimation, etc. There are certain fundamental building blocks which are, in general, common in such algorithms, such as sampling, fast-Fourier transform, linear filtering, etc. Recently, a tremendous amount of interest has been shown in solving the problems of denoising, detection, estimation, classification, etc. by applying machine learning algorithms.

In this project, we will investigate the application of ML algorithms to understand the fundamental signal processing concepts. Specifically, the goal is to analyze the ML algorithms while they solve the basic signal processing tasks.



The students will get a hands-on experience with a research project, combining disciplines in signal processing, machine learning and optimization techniques.

Required background: Signal and systems, Mavlas, Mavla.

Advabtage: Knowledge in deep learning and Python.

Environment: Matlab, Python

For further details, please contact Satish: mulleti.satish@gmail.com