



Department of Applied Mathematics
Delhi Technological University, Delhi
(Formerly Delhi College of Engineering)



Research Laboratory RL-4

This laboratory aims to provide many facilities for pursuing research and development work in the thrust area of signal processing. Signal processing is a multidisciplinary field of study that focuses on how the data are acquired and what are the mathematical tools for developing efficient computer algorithms for getting the end product. Signal processing researches the design and use of computer technology analysis of different data such as image, video, audio, and biomedical data.

There is a variety of topics concerning Signal Processing, such as:

- Image and Video analysis
- Audio content analysis
- EEG signal Analysis
- Biomedical data analysis for faster diagnosis of disease e.g., disease diagnosis using MRI, CT, PET, etc.

The main motivation of this Lab is to conduct the research for the development of state of the art technology in the different domain where the signal processing techniques results to promising application.

Purpose of Lab:

- The purpose of this Lab is to study various techniques for different signals, e.g., Image, Audio, Text, Video, BioMedical signals. The analysis for better interpretation of the information pertaining to the data under consideration is the prime aim of the Lab for solving the real-world problem. The applications of these signal processing techniques vary from medical image analysis, diagnosis to stress detection using audio data, efficient surveillance system using the webcam, EEG signal analysis for addressing the problems of person with disability.
- The aim of the laboratory is to provide state-of-the-art computer technology to the students pursuing Ph.D., M.Sc. (Mathematics), and B.Tech. (Mathematics and Computing) so that they could perform experiments and produce quality research in the domain of signal processing.
- Most of the current methodology involves a rigorous amount of mathematics for developing feature extraction and classification techniques. The department has good human resources, and the proposed signal processing laboratory will provide infrastructure for research and development in the department.
- The signal processing laboratory provides support to the student for completing their final year project work.
- The signal processing lab is aimed to attract students for research internship programs within the university and students outside the university. This may gain the attention of students from the various universities in India.
- The signal processing lab aimed at collaboration with research groups working in the signal processing research field from different universities within India and abroad.

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