

National Institute of Technology, Hamirpur (H.P.)

Innovative Research Incubation Club

Innovative Research Project Proposal Format

Research Project Title: Design Optimal FIR Filter and Filter Bank employing Hybrid Combination of Gradient and Nature inspired optimization Techniques.

Project Description: Recently, optimal multirate filter banks have wide applications in digital signal processing applications (video signals, ECG signal processing, beam forming antenna, detection of harmonics, denoising, subband decomposition and recognition of one and two dimensional signals etc). Therefore, optimal design of digital filter and filter bank are basic requirement of recent generation of signal processing applications.

Project Completion time: Long Term (More than one year)

Student Skills Required, Pre-requisites (If any): MATLAB, Digital Signal Processing knowledge.

Number of Students Required (UG/PG) for the project: Two PG students.

Name of Faculty Member: Dr. Kuldeep Baderia

Department: ECE

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