TEQIP – II: Center of Excellence in Signal and Image Processing
Sponsored Short Term Training Programme on Wavelets and its Applications
8th -12th Dec 2014

Shri Guru Gobind Singhji Institute of Engineering and Technology Nanded had organized a one week short term training programme on "Wavelets and its applications" from 8th to 12th December 2014. Six experts from host institute, one expert from IIT Bombay and One expert form DAIICT, Gandhinagar, has conducted this training programme. This mission of this training programme was to explore new directions in the fields of signal/ image processing and wavelet analysis. The STTP on wavelets was tutorial flavor and hands on experience to participants who are not necessarily wavelet experts.

Participants:

There were in total 75 participants. Out of that 30 faculty members, fourteen research scholars, twenty five M.Tech students, two M.Phil students and four B.E./B.Tech students of different Engineering institutes from different parts of India.

Facilitators:

    6 from Shri Guru Gobind Singhji Institute of Engineering and Technology, Nanded

    1 form Indian Institute of Technology, Bombay

    1 from Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar.

Workshop objectives:

1. Introduction to Wavelets.
2. Application of Wavelets in Signal and Image Processing.
3. Practical Implementation of Wavelets (2-band, M-band and Gabor Wavelet).
4. Learning interpretation of Mathematical Equations.
5.

On day 1, Training programme started at 9:30 am with small function of 30 minutes of inauguration. Dr. Pandit Vidyasagar, Vice – Chancellor, Swami Ramanad Teerth Marathwada University, Nanded was chief guest for this function. Dr. Manesh Kokare gave introduction to fundamentals of wavelets. He also explained the students. Each group did Clinical Immersion at

Dr Shankarrao Chavan Government Medical Hospital from 10.00 To am 12.30 am. During this immersion groups were divided into various sections like casualty (2 teams), OPD (1 team), Gynaecology (1 team), General Surgery (1 team), Medicine (1 team) for Clinical observations.

After clinical observations each team debriefed team's overall experience in the clinic, evaluated the list of observations, started identifying problem areas, and filtered their needs using impact, team feasibility, market size, clinician feedback and competition.

On Day 2, each teams brainstormed on their top need to converge and diverge on numerous ideas effectively. Teams then performed a systematic concept screening process and grouped each concept as blue sky/mixed /incremental and scored them on team feasibility, innovativeness and research required. They arrived at their top concept within 2 hours of brainstorming. Teams then went on to prototype their concepts using the material provided. The participants were given 3 hours for this and the activity was preceded by a short presentation on prototyping.

Outcome:

Finally each team presented their final presentation on their respective topics along with prototype model as below.

Team1: A better way to share the patient's medical history, to improve the efficiency of the diagnosis.

Team 2: Portable Vein Detector

Team 3: Clinichair

Team 4: Way to locate veins of critical ill patients

Team5: Fully Automatic and environment friendly waste disposal system development.

Future Scope:

- All the team will refine their design and develop prototype model

- There will be feedback meeting with SIB Fellow in the month of December 2013.

Dr. M. B. Kokare

Coordinator