COMPSIG NITT

In This Issue. . .

Dear friends! COMPSIG NITT is a monthly newsletter to share the research work done in the Pattern recognition and computational intelligence laboratory, Department of Electronics and Communication Engineering, National Institute of Technology Trichy.

Concepts, Ideas pertaining to Computational intelligence, Pattern recognition and Signal processing are also included in this newsletter.

We expect the feedback, comments and articles from you all.

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Team members

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Pattern Recognition - A Global Elective
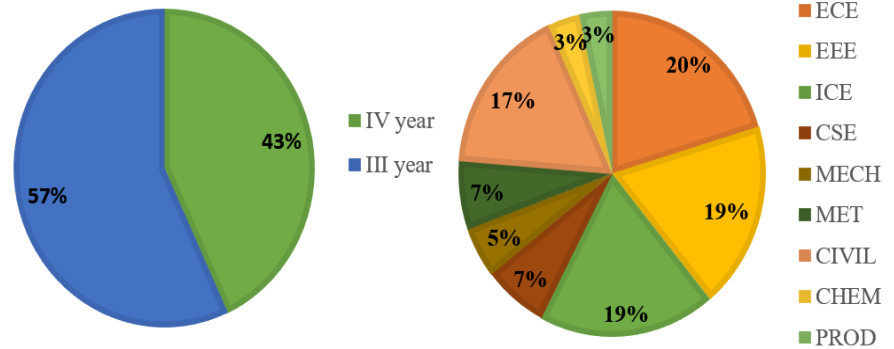
Pattern recognition (EC459) was introduced as a global elective for the current semester (Jan 2016 to Apr 2016). It was common for both third year and final year students. The pie charts illustrate the statistics regarding the distribution of the students among various departments and year of study. The total strength of the class was 48. The course has attracted students from non-circuit departments like computer science, production, civil, chemical, metallurgy and mechanical.

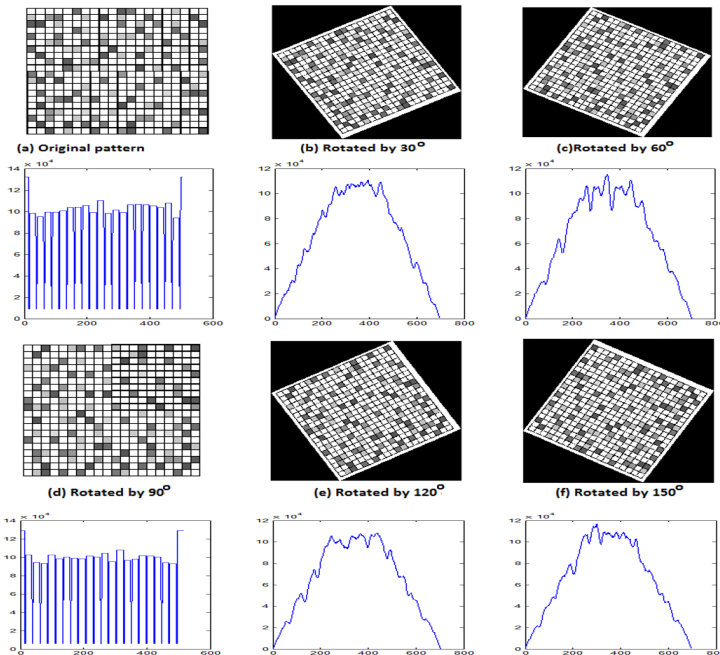Group photo of students undergoing the pattern recognition course

FEEDBACK

The individual responses of the students about the course on pattern recognition has turned up to be positive. Students have given an overall rating of 80.86% for the course. Sample feedbacks about the pattern recognition course,

- Very interesting course. The number of programming assignments could be increased and more focus could be given on practical implementation as compared to theoretical proofs.
- The course was really helpful to learn the basics of pattern recognition and machine learning.I enjoyed it.
- I'm glad I took this course!Very informative and useful.
- Most of the examples were related to signals and ECE. Would have liked if examples from other fields were given as well.
- It is an interesting course. I'm glad I took this course! Very informative and useful.

PUZZLE

- The rotated gray images are shown in the first and third rows and the sum of the pixel values of the gray image (pattern) are shown in the second and fourth rows.
- The sum of the columns of the gray image matrices shown in the first and third rows are summed up to obtain 1D plot as shown in the second and fourth rows. Will it be possible to obtain the gray image (pattern) back from the group of 1D plots given in the second and fourth rows? The resolution of the rotation may be increased. This demonstrates the usage of Radon transformation.

(a) Original pattern (b) Rotated by 30° (c)Rotated by 60°
(d) Rotated by 90° (e) Rotated by 120° (f) Rotated by 150°

Quotes

" The bird is powered by its own life and by its motivation." — Dr. A.P.J.Abdul kalam

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On-going research work

Currently, the ongoing research works are

- **Mapping Childhood Facial Features To Grown-up Facial Features Using Neural Network** - The objective is to identify a person's face from his/her childhood face or vice-versa. This can be done by training the neural network by providing the sample database of childhood images and corresponding Grown-up images.
- **Automatic music note identification from vocal songs** - Aims in identifying the musical note from vocal song (or humming). It is a very good add-on for music composing softwares and for beginner's to get the notes of their favorite songs.
- **Offtype identification of sunflower plants** - The images of various parts of the plant like leaves, stem are captured from the sunflower field. The features are extracted and varietal classification is done.

Feedback

COMPSIG NITT invites articles and innovative ideas from readers for the Reader's Space column. We expect feedback, comments and the articles to monthly newsletter COMPSIG NITT.

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