

A Global Initiative of Academic Networks (GIAN) Course on Analysis and applications of document image processing

4th December 2017 - 8th December 2017

Overview

With the evolution of mobile devices and fast computers, an increasing interest has been fostered in document image analysis. With many paper documents being sent and received via fax machines and being stored digitally in large document databases, the interest grew to do more with these images than simply view and print them. Just as humans extract information from these images, research was performed and commercial systems built to read text on a page, to find fields on a form, and to locate lines and symbols on a diagram. Today, the results of research work in document processing and optical character recognition (OCR) can be seen and felt every day.

Industrial automation is recognizing text on maps, houses, packages and containers has broad applications related to industrial automation. For example, automatic identification of container numbers improves logistics efficiency. Recognition of addresses on envelopes is applied in mail sorting systems to automatically route mails in post offices. Recognition of house numbers and text in maps benefits automatic geocoding systems. Engineering diagrams are extracted from paper for computer storage and modification.

In multi-lingual and multi-script countries like India, information communication using multiple languages/scripts is quite common. Due to complex nature of Indic scripts, recognition of such scripts is required for automation of Indic documents. Many industries and organizations are working in automation of various applications using document images techniques. This course will discuss the techniques of document image processing and its real-world applications in industry.

The primary objectives:

- 1) The course aims to provide both an objective overview and an in-depth analysis of the state-of-the-art of the document analysis systems.
- 2) It will cover both theoretical and practical aspects of real problems of document image processing, as well as examples of successful applications.
- 3) Motivate participants through case studies to understand the practical problems.

Modules:

- Basic principles of Optical Character Recognition (OCR) and document understanding.
- Graphics recognition.
- Word spotting in document images.
- Historical document analysis.
- Graph-based document analysis.
- Text detection in natural scene images.
- Applications of document image processing transferred to Industry.

Eligibility	Faculty members and students from academic Institutions (Technical Institutes/Universities) and Industry/Research organizations involved in image processing, computer vision, pattern recognition.
Fees	The participation fees for taking the course is as follows: Participants from abroad : US \$200 Students : Rs 4000 Faculty/Staff of Academic Institutions: Rs. 6000 Industry/Research Personnel: Rs. 8000 The above fee include all instructional materials, computer use for tutorials and assignments, laboratory equipment usage charges, 24 hr free internet facility. The participants will be provided with accommodation on payment basis.

The Faculty



Prof. Josep Lladós is an Associate Professor at the Computer Sciences Department of the Universitat Autònoma de Barcelona and a staff researcher of the Computer Vision Center, where he is also the director since January 2009. His current research fields are document analysis, structural and syntactic pattern recognition and computer vision.



Dr. Partha Pratim Roy is an Assistant Professor at Dept. of Computer Science and Engineering, Indian Institute of Technology, Roorkee. His research interest is Pattern Recognition and Image Analysis.



Dr. R. Balasubramanian is an Associate Professor Dept. of Computer Science and Engineering, Indian Institute of Technology, Roorkee. His research interest is in the areas of Computer Vision, Graphics and Image Processing.

Course Co-ordinators

**Dr. Partha Pratim Roy
&
Dr. R. Balasubramanian**

Phone: 1332-284816
E-mail: proy.fcs@iitr.ac.in

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<http://www.gjan.iitkgp.ac.in/GREGN>