

### CHIEF PATRON

Prof. S. Ramachandram, VC, OU

### PATRONS

Prof. Ch.Gopal Reddy, Registrar, OU

Prof. Sameen Fatima, Principal, UCE, OU

Prof. P.Laxminarayana, Dean, FoE, OU

Prof. B.Rajendra Naik, Head, ECE, OU

### Institute Coordinators for GIAN

Dr. V.V. Basava Rao, Dept. of Technology, UCT, OU

Dr. D.Rama Krishna, Dept. of ECE, UCE, OU

### About GIAN Courses

MHRD, Govt. of India has launched an innovative program titled 'Global Initiative of Academic Network's (GIAN) in Higher Education, in order to garner the best international experience into our system. As a part of this, internationally renowned Academicians and Scientists are invited to augment the country's academic resources, accelerate the pace of quality reforms and elevate India's scientific and technological capacity to global excellence.

### About Osmania University

Osmania University was established in 1917, has emerged as one of the premier institutions of higher learning in the country. It was conferred with the coveted status of "University with Potential for Excellence" in the year 2012. It epitomizes the national agenda on higher education for Access, Equity and Quality through Expansion, Inclusiveness and Excellence.

The University has a vast sprawling verdant campus of 1632 acres set in picturesque and idyllic surroundings, where diversity is valued and accepted. It owns a number of buildings of great architectural elegance and variety to enhance the beauty of the campus. Osmania University is organizing seminars, short term courses and 105- Indian Science Congress on the eve of centenary year (1917-2017).

### About University College of Engineering

The University college of Engineering has the distinction of being the oldest and the biggest among the Engineering Colleges of the State of Telangana. It was established in the year 1929, eleven years after the formation of Osmania University. The College was the sixth Engineering College to be established in the whole of British India. The college moved to its present

permanent Building in the year 1947. The college was given autonomous status in 1994. The College successfully completed TEQIP-I and TEQIP-II projects with World Bank assistance. The College offers six undergraduate programs, twenty five postgraduate programs which are aimed to match current industry needs and self-employment. It also offers research programs leading to PhD in six different departments.

### About Department of ECE

The Department of Electronics and Communication Engineering (ECE) was established in the year 1959. The department offers one UG program and PG program in five different specializations. The Department completed various sponsored research projects in the areas of Microwaves, VLSI, Wireless communication, GNSS, Image and Video Processing. The department also successfully implemented World Bank project IMPACT, Swiss development corporation project NETWORK, TEQIP phase I and phase II funded by World Bank. The Department also offers research program leading to PhD.

For further details Contact  
**Course Coordinators**

Dr. P.Ananth Raj, UGC Emeritus Fellow  
Department of ECE  
University College of Engineering  
Osmania University  
Hyderabad- 500 007, Telangana, India.  
email :ananthraj0123@gmail.com  
Mobile: 8978823599

(OR)

Dr.L.Nirmala Devi, Associate Professor  
Department of ECE  
University College of Engineering  
Osmania University  
Hyderabad- 500 007, Telangana, India.  
email : nagiitkgp@yahoo.co.in  
Mobile : 9949513490  
Office: 040 – 27098213



**MHRD**  
Govt. of India



**Call for Registration and Participation**

**Five Days GIAN Course**

**ON**

**Theory and Application of Correlation  
Filters for Computer Vision**

**(13<sup>th</sup> NOV – 17<sup>th</sup> NOV 2017)**

**By**

**International Faculty**

**Prof. Vijayakumar Bhagavatula**  
Carnegie Mellon University  
Pittsburgh, Pennsylvania, USA

**Coordinators**

**Dr. P.Ananth Raj**  
**Dr. L.Nirmala Devi**

**Organized by**

**DEPARTMENT OF  
ELECTRONICS AND COMMUNICATION ENGG  
UNIVERSITY COLLEGE OF ENGINEERING (Autonomous)  
OSMANIA UNIVERSITY, HYDERABAD-500007  
TELANGANA, INDIA**

## OVERVIEW OF THE COURSE

Over the past few years, cameras have become inexpensive making the acquisition of images and videos ubiquitous. However, processing the resulting Terabytes of data manually is impossible and computer vision techniques are essential for extracting useful information from such image and video data. Well-known examples of computer vision at work are autonomous driving systems that have to detect vehicles, pedestrians and other objects in the path of the autonomous vehicle and tracking of humans and other targets in surveillance videos. One class of methods to achieve accurate object recognition in the presence of such appearance variations is one where features computed in a sliding window in the target image are compared to features computed in a stationary window of the reference image. Frequency-domain methods, also known as correlation filters, offer significant computational efficiencies in implementing such approaches. They also offer benefits such as shift-invariance (i.e., the object of interest doesn't have to be pre-centered), no need for segmentation, graceful degradation and closed-form solutions. Thus, correlation filter-based approaches can be highly beneficial in many computer vision applications.

### Course Objectives

The primary objectives of the course are as follows:

- i) It provides the background on linear systems, linear algebra, optimization and random processes required to understand the theory and application of correlation filters.
- ii) It provides the principles of basic correlation filters as well as advanced correlation filters in the presence of occlusions, pose changes and noise.
- iii) It also provides different applications of correlation filters used in object recognition, face recognition and visual tracking.

### Who can Participate:

Registration is open to:

- i) Faculty members working in Engineering Colleges.
- ii) Executives, Engineers and Researchers from manufacturing, service and government organizations including R&D laboratories.
- iii) Students and Research Scholars from reputed academic institutions and technical institutions.

### How to Register :

#### Stage-1:

#### Web(Portal) Registration :

#### Visit GIAN Website at the link:

<http://www.gian.iitkgp.ac.in/GREGN/index> and create login User ID and Password. Fill up the blank registration form and do web registration by paying **Rs 500/-** online through **Net Banking / Debit / Credit card**. This provides him/her with life time registration to enroll in any number of the GIAN courses offered.

#### Stage-2:

#### Course Registration( Through GIAN Portal):

Log in to the GIAN portal with the user ID and password created. Click on 'course registration' option given at the top of the registration form. Select the Course titled "**Theory and Application of Correlation Filters for Computer Vision**" from the list and click on '**Save**' option. Confirm your registration by Clicking on '**Confirm Course**'.

#### Selection and Mode of Payment

Selected candidates will be intimated through Email. They have to remit the necessary course fee to the Bank account as per the details given below.

Account Name	PRINCIPAL UCE OU COORDINATOR GIAN
Account Number	37072716197
Bank	State Bank of India
Branch	OsmaniaUniversity,Hyderabad
IFSC Code	SBIN0020071
MICR Code	500002342

### Course Fees:

Participants from abroad	USD 500
Participants from industry/ research organizations	Rs 6000/-
Participants from academic institutions	Rs 3000/-
Student participants from India	Rs 1000/-

The course fee includes instructional materials, tutorials, laboratory and computer use, free internet facility, working lunch, mid sessions tea and snacks.

**Note:** On request accommodation will be provided for few participants (on first come first basis) in the campus on payment.

For any queries regarding registration of the course, please contact the course coordinator:

**Last Date for Registration: 30th October 2017**

### About Dr. VijayaKumar Bhagavatula : Course Faculty



Prof. Vijaya kumar ("Kumar") Bhagavatula received B.Tech, M.Tech. degrees from IIT, Kanpur and Ph.D. from Carnegie Mellon University(CMU), Pittsburgh and since 1982, he has been a faculty member in the Electrical and

Computer Engineering (ECE) Department at CMU where he is now the U.A. & Helen Whitaker Professor of ECE and the Interim Vice Provost for Research. At CMU, he has taught several undergraduate and graduate courses and has supervised nearly 50 Ph.D. students. Professor Kumar's research interests include Computer Vision, Pattern Recognition and Coding and Signal Processing for Data Storage Systems. In these areas, he has authored or co-authored more than 400 conference papers, 200 journal papers, twenty-two book chapters, one book entitled Correlation Pattern Recognition and twelve patents. He served as a Topical Editor for Applied Optics and as an Associate Editor of IEEE Trans. Information Forensics and Security. He has also served on many conference program committees. Professor Kumar is a Fellow of IEEE, SPIE, the Optical Society of America (OSA), the International Association of Pattern Recognition (IAPR) and the American Association for Advancement of Science.