Program Details

First Biennial
National Conference on
Computer Vision, Pattern Recognition,
Image Processing and Graphics

NCVPRIPG 2008

January 11-13, 2008

Dhirubhai Ambani
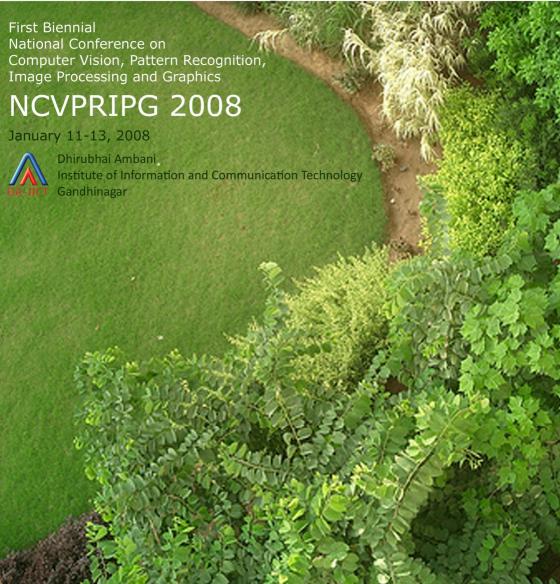Institute of Information and Communication Technology
Gandhinagar

DA-IICT

Institute

DA-IICT is a UGC recognized university and is a major educational and research institution of Reliance ADAG, India. It seeks to invoke the wider vision of the Late Dhirubhai Ambani and weave both knowledge and innovation as part of an evolving style. It is an intellectual experiment combining the twin segments of information and communication technologies into a blended system called Information and Communication Technology (ICT). The academic ambience at DA-IICT is creating a technology knowledge hub which can trigger the scientific brain-power to shape up knowledge managers and intellectual leaders. Academic programs at DA-IICT strive for inter-disciplinary education, effective combination of core and elective courses in ICT, basic sciences, humanities, design and management, project-based flexible learning and internships in various environments. A unique degree in undergraduate program i.e. B. Tech. in ICT which is first of its kind in India is being offered by the university apart from a variety of academic programs at postgraduate and doctoral levels.

Conference

The first biennial National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics (NCVPRIPG) will be held at DA-IICT, Gandhinagar, Gujarat, India. Indian Unit for Pattern Recognition and Artificial Intelligence (IUPRAI), the Indian chapter of International Association for Pattern Recognition (IAPR), is the coordinating association for the conference. NCVPRIPG-2008 is being jointly organized by the Dhirubhai Ambani Institute of Information and Communication Technology (DA-IICT) and IEEE Gujarat Section. The primary goal of the conference is to provide a platform for researchers to present state-of-the art new ideas, practical considerations and novel applications in the areas of Computer Vision, Graphics, Image Processing and related fields. The resultant of the conference is expected to encourage academicians, students and industrial interaction to promote collaborative research and developmental activities.

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Program Venue

1. Main Gate 2. Girls' Hostel 3. SAC-II Building 4. Guest House 5. Boys' Hostel 6. Cafeteria 7. Lab Building 8. CEP Building 9. Lecture Theatre-1 10. Resource Centre

Inauguration: Lecture Theatre - 1
Registration Desk/Help Desk: CEP Building Ground Floor
Workshop: CEP Building – 010
Tutorial: CEP Building – 003
Hall A: CEP Building – 010
Hall B: CEP Building – 003
Valedictory Function: CEP Building - 003
Key Note Addresses: Lecture Theatre 1
Conference Lunch: CEP Building lawns
Banquet: SAC-II Club House, 1st Floor

Program

Day 1: January 11, 2008

8:30 AM Onwards		Breakfast	
8:30 - 9:30 AM		Registration	
Workshop Advances in Pattern Classification		Tutorial Issues on Information Processing	
9:30 - 11:00 AM	Session I	9:30 - 11:00 AM	Session I
Tea 11:00 - 11:30 AM			
11:30 - 1:00 PM	Session II	11:30 - 1:00 PM	Session II
Lunch 1:00 - 2:00 PM			
2:00 - 3:30 PM	Session III	2:00 - 3:30 PM	Session III
Tea 3:30 - 4:00 PM			
4:00 - 5:30 PM	Session IV	4:00 - 5:30 PM	Session IV
Dinner		7:30 PM Onwards	

Day 2: January 12, 2008

8:30 – 9:00 AM	Breakfast	
9:00 - 9:30 AM	Inauguration	
9:30 - 10:15 AM	Key Note Address - I	
10:15 - 10:45 AM	High Tea	
10:45 - 11:30 AM	Key Note Address - II	
	Hall A	Hall B
11:30 - 1:00 PM	Image Processing – I	Pattern Recognition – I
1:00 - 2:00 PM	Lunch	
2:00 - 3:30 PM	Image Processing – II	Computer Vision – I
3:30 - 4:00 PM	Tea	
4:00 - 5:30 PM	Image Processing Applications – I	Computer Vision – II
7:30 PM Onwards	Banquet	

Day 3: January 13, 2008

8:30 – 9:15 AM	Breakfast	
9:15 - 10:00 AM	Key Note Address – III	
10:00 - 10:30 AM	Tea	
	Hall A	Hall B
10:30 - 12:30 PM	Image Processing – III	Pattern Recognition – II
12:30 – 1:30 PM	Lunch	
1:30 – 3:30 PM	Image Processing Applications – II	Pattern Recognition – III Computer Vision – III
3:30 – 4:00 PM	Tea	
4:00 – 5:00 PM	Valedictory Function	

Tutorial/Workshop in Detail

Details of Workshop on Advances in Pattern Classification	
Session I	Opening Remarks Santanu Chaudhury, IIT Delhi Probabilistic Classifiers Anoop Namboodiri, IIIT Hyderabad Neural Networks for Classification Santanu Chaudhury, IIT Delhi
Session II	Kernel Techniques Sumantra Dutta Roy, IIT Delhi SVM and Related Techniques C. V. Jawahar, IIIT Hyderabad
Session III	Decision Trees Jayanta Basak, IBM IRL Basics of CRF Santanu Chaudhury, IIT Delhi
Session IV	Rough Set based Classifier Design Arun K. Pujari, LMNIIT Jaipur Classifier Combination Gaurav Harit, IIT Delhi

Details of Tutorial on Issues on Information Processing	
Session I	Matrix Analysis for Image Processing Arun K. Pujari, LMNIIT Jaipur
Session II	Computational Analysis of Certain Problems in Systems Biology Rajat K. De, ISI Kolkata
Session III	Methods of Texture Segmentation Sukhendu Das, IIT Madras
Session IV	Document Image Analysis and Recognition Umapada Pal, ISI Kolkata

Key Note Addresses

Details of Key Note Addresses			
Key Note Address I	Date: Jan 12, 2008	Time: 9:30-10:15 AM	Venue: LT-1
	Pattern processing by humans and machines - The architectural mismatch B. Yegnanarayana, IIIT Hyderabad		
Key Note Address II	Date: Jan 12, 2008	Time: 10:45-11:30 AM	Venue: LT-1
	Holistic Perception and Interfaces for Active Safety Mohan Trivedi, University of California, San Diego		
Key Note Address III	Date: Jan 13, 2008	Time: 9:15-10:00 AM	Venue: LT-1
	Some Advances in Image Processing B.L. Deekshatulu, Central University of Hyderabad		

Sessions in Detail

Image Processing – I	Venue: Hall A
Date: Jan 12, 2008	Time: 11:30 - 1:00 PM
Invited Talk	Opaque, Transparent and Translucent Matting Sharat Chandran, IIT Mumbai
Session Chair	Sharat Chandran
Paper 1	A Hierarchical Analysis Scheme for Robust Segmentation of Document Images using White-spaces Ritu Garg, Gaurav Harit and Santanu Chaudhury
Paper 2	Efficient Compression of Video using Distributed Source Coding Aparna Dinesh and Sumam David
Paper 3	Restoration of Document Images using Bayesian Inference Jyotirmoy Banerjee and CV Jawahar

Image Processing – II	Venue: Hall A
Date: Jan 12, 2008	Time: 2:00 - 3:30 PM
Invited Talk	Multifocus Image Fusion Using Mathematical Morphology Bhabatosh Chanda, ISI Kolkata
Session Chair	Bhabatosh Chanda
Paper 1	Image Reconstruction using Pollaczek Moments Venkataramana A and Ananth Raj P
Paper 2	A Novel Spatial Domain Scheme for Multiple Bitplane Steganography Arijit Sur, Piyush Goel and Jayanta Mukhopadhyay
Paper 3	Efficient Graph-based Image Matching for Recognition and Retrieval Praveen Dasigi and CV Jawahar

Image Processing – III	Venue: Hall A
Date: Jan 13, 2008	Time: 11:00 - 1:00 PM
Invited Talk	Trajectory Analysis of Broadcast Soccer Videos Jayanta Mukherjee, IIT Kharagpur
Session Chair	Jayanta Mukherjee
Paper 1	An Analysis of Efficient Quad-Tree based on Frame Complexity of I-frame of Video for H 2.64 Amit Kant Pandit
Paper 2	Using Perceptual Criteria in Enhancing Capacity of Quantization Based Data Hiding Technique for Gray Scale Images Mehul Raval
Paper 3	Comparative Analysis of Wavelet Transform Based Image Fusion Methods Jayshree Kundargi and Vinay Shirhatti
Paper 4	Quality Access Control of a Compressed Gray Scale Image Amit Phadikar, Malay K Kundu and Santi P Maity

Image Processing Applications – I	Venue: Hall A
Date: Jan 12, 2008	Time: 4:00 – 5:30 PM
Invited Talk	Cephalometric Analysis Asim Banerjee, DA-IICT Gandhinagar
Session Chair	Asim Banerjee
Paper 1	Road Extraction from Satellite Images using Orientation and Area Discrimination Mirnalinee Dhinesh, Dr Sukhendu Das and Koshy Varghese
Paper 2	Visual Saliency-based Theme and Aspect Ratio Preserving Image Cropping for Small Displays Rajarshi Pal, Pabitra Mitra and Jayanta Mukherjee
Paper 3	Video Mining for Event Discovery Ayesha Choudhary, Santanu Chaudhury and Subhashis Banerjee

Image Processing Applications – II		Venue: Hall A
Date: Jan 13, 2008		Time: 1:30 - 3:30 PM
Invited Talk	Image Senor Network and it Application to Wildlife Research Prabhat Ranjan, DA-IICT Gandhinagar	
Session Chair	Prabhat Ranjan	
Paper 1	A Method for Automatic Heart Localization form Thoracic SPECT Planar Images K Kannan and Jeny Rajan	
Paper 2	Combined Scale and Translation Invariants of Krawtchouk Moments Venkataramana A and Ananth Raj P	
Paper 3	Efficient Techniques in Compressed Domain to Support Information Retrieval Applications for Broadcast News Videos Tarun Jain and C V Jawahar	
Paper 4	Optimal Visual Sensor Placement Using Evolutionary Algorithm Indu S and Santanu Chaudhury	

Pattern Recognition – I		Venue: Hall B
Date: Jan 12, 2008		Time: 11:30 - 1:00 PM
Invited Talk	Indian Multi-lingual and Multi Script Postal Mail Sorting Umapada Pal, ISI Kolkata	
Session Chair	Umapada Pal	
Paper 1	Eye Detection and Face Recognition using Line Edge Maps Mihir Jain, Suman Mitra and Naresh Jotwani.	
Paper 2	High Performance Pattern Recognition on GPU Sheetal Lahabar, Pinky Agrawal and P J Narayanan	
Paper 3	Music Genre Classification using Auto-Associative Neural Networks Abhishek Ballaney, Suman Mitra and Anutosh Maitra	

Pattern Recognition – II	Venue: Hall B
Date: Jan 13, 2008	Time: 10:30 - 12:30 PM
Invited Talk	Connectionist Modeling of Dynamics of Gene Expression and Reverse Engineering Gene Regulatory Networks Rajat De, ISI Kolkata
Session Chair	Rajat De
Paper 1	Pattern Classification Modeled by Goal Programming Dhruv Saksena, Shruti Garg and Suman Mitra
Paper 2	Traffic Sign Recognition using Generative Model of Scale Invariant Feature Descriptors Sai Sankalp Arrabolu and Lucas Paletta
Paper 3	A Simple Feature Space Partitioning Approach for Pattern Classification Hina Shah, Suman Mitra and Asim Banerjee
Paper 4	Use of Suprasegmental Features present in LP Residual for Audio Clip Classification Anvita Bajpai

Computer Vision– I	Venue: Hall B
Date: Jan 12, 2008	Time: 2:00 - 3:30 PM
Invited Talk	Hybrid Search Techniques for Motion Estimation Mukesh Javeri, SVNIT Surat
Session Chair	Mukesh Javeri
Paper 1	Refinement in 3D Reconstruction using Cheirality Constraints Sunando Sengupta and Dr Sukhendu Das
Paper 2	Robust Camera Pan and Zoom Change Detection Using Optical Flow Vishnu Makkapati
Paper 3	Image Reconstruction using Pollaczek Moments Venkataramana A and Ananth Raj P

Computer Vision– II		Venue: Hall B
Date: Jan 12, 2008		Time: 4:00 - 5:30 PM
Invited Talk	To be Announced Subhasis Banerjee/Prem Kalra, IIT Delhi	
Session Chair	Subhasis Banerjee/Prem Kalra, IIT Delhi	
Paper 1	Detection and Tracking of Objects in Low Contrast Conditions Abhishek Singh, Padmini Jaikumar, Suman Mitra, Manjunath V Joshi and Asim Banerjee	
Paper 2	Regularized shape from focus Rajiv Sahay and Rajagopalan AN	
Paper 3	A Novel Approach for the User Assisted Separation of Reflections From an Image M A Ansari and R S Anand	

Computer Vision– III Pattern Recognition – III		Venue: Hall B
Date: Jan 13, 2008		Time: 1:30 - 3:30 PM
Invited Talk	Learning Based Super-resolution Manjunath V. Joshi, DA-IICT Gandhinagar	
Session Chair	Manjunath V. Joshi, DA-IICT Gandhinagar	
Paper 1	A Machine Learning based Approach to Video Summarization Varun Luthra, Jayanta Basak, Santanu Chaudhury and KAN Jyothi	
Paper 2	Importance Sampling Based Probabilistic EigenTracker Anup Shetty, Sumantra Dutta Roy, S Chaudhrui	
Paper 3	Experiments with Eigenedginess: Application to Face Recognition Problem Hima Patel and Suman Mitra	
Paper 4	Joint Estimation in Stereo Super-resolution Arnav Bhavsar and Rajagopalan AN	

Places of Interest

Gandhinagar

Gandhinagar is the capital city of Gujarat. It is located on the west bank of River Sabarmati, about 32 km from Ahmedabad. The city is named after the Father of the Nation, Mahatma Gandhi. It is a well organized and architecturally integrated city and is slowly picking up as a tourism destination. Gandhinagar is also known as a greenest city in Gujarat with its lush green environment.

Ahmedabad

Ahmedabad is the commercial center of Gujarat. Previously known as Karnavati, Ahmedabad was named after Sultan Ahmed Shah in 1411 AD after he conquered Karnavati. It is the sixth largest city in India now and boasts of a flourishing industrial sector. It is also a major tourist spot, owing to the fact that it offers a wide variety in terms of tourist attractions. From lakes to museums, from historical monuments to religious places, you have got it all. It also houses the famous Sabarmati Ashram, which holds great importance for the followers of the Gandhi school of thought. They come here to pay homage to the Father of the Nation and remember his sacrifice for the Indian independence.

Places to visit in and around Gandhinagar and Ahmedabad:

Sabarmati Ashram

Sabarmati Ashram lies on a quiet stretch of the river Sabarmati, 7 kms north of the city, set up by Mahatma Gandhi as a simple retreat in 1915. This was his first Satyagraha Ashram. Hridaya Kunj, the cottage where he lived is preserved as it was in the Mahatma's lifetime. The Gandhi Ashram has a memorial centre, library and a sound and light spectacle to offer its visitors.

Akshardham Temple

Akshardham is a place of education, entertainment and enlightenment. It combines traditional stone architecture, ancient wisdom, and the best of modern technology to create the most powerful experience of Indian Culture ever to exist. Dedicated to Lord Swaminarayan, Akshardham is a miracle worked by the sacrifice of thousands of volunteers. Hundreds of figures, dioramas, displays and audio-visual shows, unfold a stream of timeless experiences. They are visually mesmeric, scientifically stunning, and spiritually moving.

Adalaj Step Well

Adalaj Step Well is located 18 kilometers south of Gandhinagar city in the Gandhinagar district. It was built during the reign of Queen Rudabai, a Muslim ruler. The four-level well is dug directly into the water table, exposing fresh water that rose and fell according to the seasons and the amount of rainfall. Its deep interior provided cool relief from the harsh sun.

Jumma Masjid

Jumma Masjid of Ahmedabad is one of the most beautiful mosques in India. It was built in the year 1423 by the founder of the city, Sultan Ahmed Shah, and is located in the old city. Built in yellow sandstone, this monument is capable of outshining any other monument of Ahmedabad. Jumma Masjid is a fine example of Indo Saracenic architecture, with the special touch of the Sultan himself. It presents an extraordinary blend of Hindu and Muslim styles of architecture.

Teen Darwaza

Teen Darwaza is a triple arched gateway, situated in the city of Ahmedabad. It is the landmark of the city and is an architectural masterpiece. The gateway was built by the founder of Ahmedabad, Sultan Ahmed Shah in 1411 AD. Teen Darwaza serves as the entrance to the Royal Square (Maidan Shahi). The imposing structure in the city is known for its extraordinary proportions and ornamentation. It is one of the sought after tourist spots in the city. The vicinity of the monument is highly famous for its markets.

Sarkhej Roza

Sarkhej Roza is a small city, located 10 km towards the southwest of Ahmedabad. It is known for its beautiful architectural complex which houses a mausoleum and a mosque. In the ancient era, Sarkhej Roza was a small village comprising of mainly Hindu weavers and Indigo dyers population. It was inhabited by a Sufi saint Sheikh Ahmed Khattu. He was a close friend and advisor to Sultan Ahmed Shah. The saint lived in the village till the age of 111 years. He died in the year 1445, after which the Sultan ordered the construction of a mausoleum and a mosque in his honor. The construction of these two monuments was completed by his successor, Qutub-ud-din Ahmed Shah in the year 1451 AD.

Multiplexes

Ahmedabad is known for its multiplexes and for starting the multiplex's market race in India. The first ever multiplex in India, City Pulse, is situated in Gandhinagar. A number of multiplexes, Fun republic, City Pulse, R World, Wide Angle to name a few, are situated both in and near Gandhinagar and on Ahmedabad Gandhinagar highway.

Nal Sarovar Bird Sanctuary

Nal Sarovar Bird Sanctuary is a bird watcher's paradise. It is situated just 65 km southwest of Ahmedabad. The delightful bird sanctuary of Nal Sarovar is located around the Nal Lake. It was established in 1969 AD and is spread over an area of 11,500 hectares. Nal Sarovar houses over 250 species of wetland birds. There are also a number of species that migrate here from north, mainly Rosy Pelicans, Flamingoes, White Storks, Brahminy Ducks and Herons. One can also enjoy the serene sunsets or sunrises, while ferrying in the lake.

Shanku's Water Park

Shanku's Water Park is an amusement park situated near Ahmedabad. The park is a famous picnic spot, away from the hustle and bustle of the city. There are around 37 rides in the park, which provide unbound pleasure for adventure seekers. It was established in 1993, with a view to provide pure entertainment to the people. The park offers crystal clear treated water, beautifully landscaped environment, food courts and lounges.

Lothal

Lothal is situated at a distance of 80 km from Ahmedabad. It is one of the most important archaeological sites in India. In the dialect of the local people language, Lothal means 'the mound of the dead'. The site was discovered in the year 1957, followed by excavations done by the Archaeological Survey of India. It was concluded from the excavations that the ruins of the settlement belonged to the Harappan Era, dating back to the 2nd millennium BC. It is an exquisite example of Harappan town planning. One of the most interesting sites here is the dockyard. It reveals the fact that Lothal was once one of the major ports in the region.

Sponsors for the event: