

Faculty Information:

Sl. No	Information	
1.	Name: Contact Address: Phone Number: Email Address:	Dr. G. SHIVAKUMAR Professor in E&I Engineering Dean(Research Programs) and Director, IQAC +91 94487 42111 gs@mcehassan.ac.in gskmce@gmail.com
2.	Qualification	B.E.(UoM), M.Tech.(IIT, Kharagpur), PGD(HRM), Ph.D.(VTU)
3.	Date of Joining	09.10.1990
4.	Position Held	Professor, Dean(Research Programs) and Director, IQAC
5.	Research Interest	Affective Computing, Pattern Recognition, ANN and Embedded Sys.
6.	Selected Publications	
	<p>❖ Book Chapter</p> <p>Authors: G. Shivakumar and P.A. Vijaya Book Title: Synthesizing Human Emotion in Intelligent Systems and Robotics Chapter Title: Investigation of Individual Emotions with GSR and FTT by employing LabVIEW Editor: Dr. Jordi Vallverdú Publisher: IGI Global, USA, 2014 edition</p> <p>❖ Journal Publications</p> <ol style="list-style-type: none"> 1 G. Shivakumar and P.A. Vijaya, "Face Recognition System using Back-propagation Artificial Neural Network", <i>International Journal of Computer Engineering and Information Technology</i>, Vol. 7, No. 12, 2009, pp. 10-18. 2 H.S.Mohana, G.Shivakumar, Manjunatha. K.C. and M.Ashwathakumar, "Detection and Classification of Moving Objects by Using Real Time Traffic Flux Through Differential Analysis", <i>International journal of Computer, Mathematical Sciences and Applications</i>, Vol. 3, No. 1-2, January-June 2009, pp. 31-39. 3 G. Shivakumar and P.A. Vijaya, "Face Recognition using Geometric Attributes", <i>International Journal of Computational Intelligence and Research</i>, Vol. 6, No. 03, 2010, pp. 373-383. 4 H.S.Mohana, M.Ashwathakumar and G.Shivakumar, "Vehicle Counting and Classification using Kalman Filter and Pixel Scanner Technique and its Verification with Optical Flow Estimation", <i>Global Journal of Computer Science and Technology</i>, Vol. 10, Issue 8, Ver 1.0 August 2010, pp. 46-53. 5 G. Shivakumar and P.A. Vijaya, "Analysis of Human Emotions Using Galvanic Skin Response and Finger Tip Temperature", <i>International Journal of Synthetic Emotions (United States)</i>, Vol. 2, Issue 1, 2011. pp. 15-25. 6 G. Shivakumar and P.A. Vijaya, "Emotion Recognition Using Finger Tip Temperature: First Step towards an Automatic System", <i>International Journal of Computer and Electrical Engineering (Singapore)</i>, Vol. 4, No. 3, June 2012, pp.252-255. 7 P. A. Vijaya and G. Shivakumar, "Galvanic Skin Response: A Physiological Sensor System for Affective Computing," <i>International Journal of Machine Learning and Computing (Singapore)</i> Vol. 3, No. 1, pp. 31-34, 2013. 8 G. Shivakumar and P.A. Vijaya, "An Improved Artificial Neural Network Based Emotion Classification System for Expressive Facial Images", <i>Springer's Lecture Notes</i> 	

in *Electrical Engineering*, ISBN 978-81-322-1523-3, No. 258, Chapter 31, 2013.

- 9 Dr.H.S.Mohana, Rajithkumar B. K., G. Shivakumar, and C.M.Naveen Kumar, "Era Identification and Recognition of Stone In-scripted Kannada Characters Using Artificial Neural Networks", *International Journal of Engineering Research & Technology (IJERT)* ISSN: 2278-0181, Volume 2, Issue 05, pp.178-185, 2014.
- 10 C M Naveen Kumar, B Ramesh, G Shivakumar, "Android Based Autonomous Intelligent Robot for Border Security", *IJSET*, Vol 1, Issue 5, July 2014.
- 11 Dr. H.S. Mohana, Rajithkumar B K, Navya.K, H.S.Prabhakara, G.Shivakumar,"Finger Print Recognition using Scale Invariant Feature Transform", *International Journal of Electrical and Electronic Engineering & Telecommunications (IJEETC)*, Volume 3, Issue 3, May 2014.
- 12 Dr. H.S. Mohana, Navya.K, G. Shivakumar, Dr. P.C.Srikanth , "Stone Inscribed Kannada Characters Matching using SIFT", *International Journal of Industrial Electronics and Electrical Engineering*, ISSN: 2347-6982, Volume-2, Issue-6, June-2014.
- 13 C.M. Naveenkumar and G. Shivakumar, "A survey on Human Emotion Analysis Using Thermal Imaging and Physiological Variables", *International Journal of Current Engineering and Scientific Research*, ISSN(Print):2393-8374, Online: 2394-0697, Volume 4, Issue 4, 2017.
14. C M Naveen Kumar, and G. Shivakumar. "A Real Time Human Emotion Recognition System Using Respiration Parameters and ECG." *International Conference on Intelligent Human Computer Interaction, Lecture Notes in Computer Science*, pp 36-45 vol 11278, November 2018, Springer.
15. C M Naveen Kumar, G Shivakumar, "A Real Time Human Emotion Recognition System using Respiration Inhale-Exhale Temperature Patterns and ECG", *Lecture Notes on Data Engineering and Communications Technologies*, pp 822-833 ,vol 26, December 2018, Springer.

❖ International Conferences

- 1 K.V. Siddamal, G. Shivakumar, H.S. Mohana and M.V. Sathyanarayana, "Design and Development of Thin Film Magneto-resistive Magnetometer", *International Conference on Instrumentation*, Paper number CP-103, GIET Poona, 19th –21st December 2004.
- 2 G. Shivakumar., H.S. Mohana and H.N. Suresh, "PLC for captive power generation using Altera MAX 3000 CPLD", *IEE International Conference on Energy, information technology and power*, PP. A-9 to A-12, Jadhavpur University, Kolkatta, 28th –29st January 2005.
- 3 H.S. Mohana, M. Ashwathakumar and G. Shivakumar , "Statistical Approach to real time traffic flux estimation", *IEEE International Conference on signal and Image processing* , PP-501-505, BVBCET, Hubli, 7th to 9th December 2006.
- 4 G. Shivakumar and P.A. Vijaya, "Face Recognition Systems – A Systematic Survey", *IEEE International conference on Computer, Communication, Control and Instrumentation*, PP 83-87, RVCE, Bangalore, 21st to 23rd November 2007.
- 5 G. Shivakumar, P.A. Vijaya and R.S. Anand, "Artificial Neural Network Based

Cumulative Scoring Pattern Method for ECG Analysis”, *IEEE International conference on Advances in Computer Vision and Information Technology*, PP 451-457, Dr. Ambedkar Marathwada university, Aurangabad, 28th to 30th November 2007.

- 6 H.S.Mohana, M.Ashwathakumar, G.Shivakumar, “Vehicle Detection and Counting by Using Real Time Traffic Flux Through Differential Technique and Performance Evaluation” ,*IEEE International conference on Advanced ComputerControl (ICACC 2009)*held at Nanyong Technological University, Singapore,22 - 24, January 2009.
- 7 H.S.Mohana, M.Ashwathakumar, G.Shivakumar, “Real-time Dynamic Scene Analysis Using Differential Technique and Performance Evaluation with Optical Flow” ,*IEEE International conference on Advanced ComputerControl (ICACC 2009)*held at Nanyong Technological University, Singapore, 22 - 24, January 2009.
- 8 H.S.Mohana , M.Ashwathakumar, G.Shivakumar , "Detection and Classification of Moving Objects by using Real Time Traffic Flux through Differential and Graphical analysis" presented at The *IEEE International Conference on Computational Intelligence, Communication Systems and Networks* held at Indore, India, 23rd to 25th July 2009.
- 9 G. Shivakumar and P.A. Vijaya, “Emotion Recognition Using Finger Tip Temperature: First Step towards an Automatic System”, *IEEE International Conference on Signal Acquisition and Processing (ICSAP 2011)* held at Singapore,26 - 28, February 2011, pp. VI-1 to VI-5.
- 10 P.A. Vijaya and G. Shivakumar, “Galvanic Skin Response: A Physiological Sensor System for Affective Computing”, *IEEE International Conference on Machine Learning and Computing (ICMLC 2011)* held at Singapore, 26 - 28, February 2011.
- 11 G. Shivakumar and P.A. Vijaya, “Human Emotion Recognition from Facial Images Using Feed Forward Neural Network with Batch Back Propagation Algorithm”, *International Conference on Data Engineering and Communication Systems-2011 (ICDECS 2011)*held at Bangalore,29 - 30, December 2011, pp. 198-203.
- 12 G. Shivakumar and P.A. Vijaya, “An Improved Artificial Neural Network Based Emotion Classification System for Expressive Facial Images”, *International Conference on VLSI, Communication, Advanced Devices, Signals & Systems and Networking (VCASAN)* held at BNMIT, Bangalore,17 – 19 July 2013, pp. 243-253.
- 13 G. Shivakumar and P.A. Vijaya, “Contemplation of Emotion Using Medley Feature Vector Method”, accepted for publication in the proceedings of the *2nd International Conference on Digital Signal Processing (MIC-SigProc 2014)*, Dubai, 3-5 Oct, 2014.
- 14 G. Shivakumar, H.S. Mohana and P.A. Vijaya, “Facial Expression Based Human Emotion Recognition with Live Computer Response”, Accepted for presentation at *International Conference on Intelligent and Autonomous Systems (ICIAS2015)* organized by Malnad College of Engineering and ISRO-MCF, Hassan from 28th to 29th November,2015.
- 15 Swathy. H.Y., G. Shivakumar and H.S. Mohana, “Crowd behavior Analysis-A Survey”, *International Conference on Recent Advances in Electronics & Communication Technology* organized by SJBIT, Bengaluru from 16th to 17th March, 2017

C M Naveen Kumar & G Shivakumar, “A Real Time Human Emotion Recognition

- 16 System using Respiration Inhale-Exhale Temperature Patterns and ECG”, *Springer International Conference On Intelligent Data Communication Technologies And Internet Of Things (ICICI 2018)*, The Arcadia, Coimbatore, India, 07-08 August 2018.
- 17 C M Naveen Kumar and Shivakumar G, “*A Thermal Imaging Based Classification of Affective States using Multiclass SVM*”, International Conference on Intelligent Systems Design and Applications (ISDA-2018), 6th December, 2018, VIT, Vellore, TN, India.
- 18 C M Naveen Kumar, and G. Shivakumar. “*A Real Time Human Emotion Recognition System Using Respiration Parameters and ECG.*” *International Conference on Intelligent Human Computer Interaction*, 7th-9th December, 2018, IIIT, Allahabad, UP, India.
- 19 Deepika. K.C. and G. Shivakumar, “*Touchless 3D Fingerprint Classification: A Systematic Survey*”, 3rd International Conference on Electrical, Electronics, Communication, Computer Technology and Optimization Techniques(ICEECCOT 2018), 14-15 December, 2018, GSSSIETW, Mysore, PP 352-356.
- 20 Yashas. J. and G. Shivakumar, “*Hand Gesture Recognition: A Survey*”, 23rd International Conference on Artificial Intelligence And Data Engineering on 23rd to 24th May 2019, Organized by NMAMIT, Nitte.

❖ National Conferences

1. G. Shivakumar, R.S. Anand, “A Cumulative scoring pattern method for human heart disease identification” , *National Conference on Biomedical Engineering*, PP 87-92, Indian Institute of Technology, Roorkee, 21st to 22nd April 2001.
2. Moushumi Mazumdar, G. Shivakumar, H.S. Mohana and K.A.Krishnamurthy, “An Automated Terrace Cultivation System with Remote Monitoring Facility”, *National symposium on Instrumentation*, Paper number CP- 252, GB Pant University, Pantnagar, 3rd-5th November 2003.
3. Anirban Bhowal, G. Shivakumar, H.S. Mohana and K.A.Krishnamurthy, “A PIC 16F877 Microcontroller Based Automation of Cattle Feed Plant”, *National symposium on Instrumentation*, Paper number CP- 251, GB Pant University, Pantnagar, 3rd-5th November 2003.
4. H.N Suresh, G. Shivakumar, H.S. Mohana and M.S.Raviprakash, “Design and fabrication of switched mode power supply” , *National Conference on Recent advances in power system and control*, Pp 127-132, GVP, Vizag, 27th –29th December 2003.
5. G. Shivakumar, H.S. Mohana and H.N Suresh, “Trellis Codec using Altera Max 3000 CPLD” , *National Conference on Control and Instrumentation* , PP 162-166, MIT, Manipal, 05th to 06th November 2004.
6. G. Shivakumar. and H.S. Mohana, “A Bio-veterinary system to characterize disease in bovines” ,*National symposium on Instrumentation* , Cochin University of Science and Technology, Cochin, 30th November 2005 to 2nd December 2005.
7. G. Shivakumar. and H.S. Mohana, “Medical strip detection and diverting system using PIC16F877 microcontroller”, *National symposium on Instrumentation* , Cochin

	<p>University of Science and Technology, Cochin, 30th November 2005 to 2nd December 2005</p> <p>8 H.S. Mohan, M. Ashwathakumar, G. Shivakumar and K C Ravishankar, “Vehicle Tracking and Velocity Estimation using Cumulative Optical flow Computation”, <i>National conference on Innovations in information and communication Technology(NCIICT-2006)</i>, PSG Coimbatore, pp. 188-192.</p> <p>9 G. Shivakumar, H.S. Mohana and P.A. Vijaya, “Moisture Measurement in Food Grains Using PIC 16F877 microcontroller” , <i>National symposium on Instrumentation</i>, paper number-CP-326, Institute of Technology & Management, Department of Electronics & Instrumentation, ITM Universe, Gwalior, 12th to 15th October 2006 organized by Instrument Society of India, Indian Institute of Science, Bangalore.</p> <p>10 G. Shivakumar, H.S. Mohana and P.A. Vijaya, “Human Blood Glucose Measurement Using PIC 16F877 microcontroller” , <i>National symposium on Instrumentation</i>, paper number-CP-327, Institute of Technology & Management, Department of Electronics & Instrumentation, ITM Universe, Gwalior, 12th to 15th October 2006 organized by Instrument Society of India, Indian Institute of Science, Bangalore.</p> <p>11. G. Shivakumar, A. Vanitha, Chaitra Chandrashekar and K. Sridevi, “Portable Respiratory Monitor” , <i>National Conference on Power Systems and Industrial Automation (NCPSIA-2015)</i>, pp 67-70, GSSSIETW, Mysore 22nd August 2015.</p> <p>12. G. Shivakumar, H.S. Mohana, H.S. Murali and C.M. Naveenkumar, “LabVIEW Based Specific Gravity Measurement”, <i>National Conference on Power Systems and Industrial Automation (NCPSIA-2015)</i>, pp 84-88, GSSSIETW, Mysore 22nd August 2015.</p>	
16.	Honors and Awards	<ol style="list-style-type: none"> 1. Session Chair at various International and National Conferences and Symposiums 2. Delivered invited talks in the domain of Embedded Systems, ANN, Affective Computing and Engineering Education 3. Member, Board of Studies, JSS University of Science and Technology, Mysore 4. Member, Board of Studies, R.V. College of Engineering, Bengaluru 5. Member, Board of Studies, Siddaganga Institute Technology, Tumkur 6. Member, Doctoral Committee of VTU, Manipal University, SAHE and JSSUST 7. Member, Board of Examiners of various Universities and Autonomous Institutes at present and in the past
17.	Achievements	<ol style="list-style-type: none"> 1. Member Secretary of MCE academic Council 2. Institute NBA coordinator 3. Head of the Department (Jan 2015 to Feb 2018) 4. Dean (Research Programs) 5. Director, IQAC
18.	Memberships	<ol style="list-style-type: none"> 1. Life Member, Instrument Society of India (ISOI), IISc. 2. Life Member, International Association of Computer Science and Information Technology (IACSIT), Singapore 3. Life Member, Indian Society of Technical Education (ISTE) 4. Member, Institution of Engineers (India)

19. Photo

