Dr. Mallikarjun Hangarge

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EDUCATION

1. Ph.D., Gulbarga, University, Gulbarga, India. (2009).
2. MPhil., M.S. University, Tamil Nadu, India (2003).
3. PGDCA, Gulbarga University, Gulbarga, India (1993). II Rank
4. M.Sc., Gulbarga University, Gulbarga, India (1989)

AWARDS AND COLLABORATIONS

1. Best paper awards : 03
2. Bidar District Republican day award 26, January, 2011.
3. IAPR stipend of USD 700 awarded to present a paper at ICPR 2006, Hong Kong.
4. Summer Research Fellow 2012, INSA, Bangalore. Working with Dr. Kishore Prahallad, IIIT Hyderabad, India.
5. Working with **Dr. Santosh KC, INRIA, France.**
6. Travel Grant Awarded by UGC, to present a paper in International Conference on Document Image Analysis and Recognition held at Washington DC, August 25-28, 2013

PROJECTS COMPLETED

1. Major Research Projects: 02 (in collaboration with Gulbarga University, and Karnataka University, Dharwad) of Rs.15 lacs funded by UGC, India.
2. Minor Research Project: 01 of Rs. 1.5 lacs, funded by UGC, India.

MEMBERS OF ACADEMIC BODIES

1. Member and Chairman of BOE, Gulbarga University, Gulbarga, India
2. BOS Member of Gulbarga University, Gulbarga, India
3. Member and Chairman of BOE, VSK University, Bellary, India
4. Editorial Board Member of Journal Global Research in Computer Science (IGRCS), India
5. Reviewer of International Magazine on Advances in Computer Science and Telecommunications (IMACST), Association for Computer Science and Telecommunications, Republic of Macedonia. (for authentication visit the following link)

Vasil Gorgov St 22/14 1000, Skopje, Republic of Macedonia
6.   Advisory board member of National and International Conferences.
7.   Review committee member of National and International Conferences (for authentication visit the following link) International Conference on Digital Information Processing and Communications (ICDIPC), Ostrava, Czech Republic
8.   Review Committee member of The International Conference on Informatics Engineering & Information Science University Technology Malaysia, Malaysia
9.   Editorial Board Member of International Journal of Advances in Engineering & Technology by IJAET
10. Editor in Chief , Bioinfo Publications Journals, India
11. Member of IEEE, USA
12. Senior Member of IACSIT, Singapore
13. Member of IAENG, Hong Kong,
14. Member of Computer Science Teachers Association, ACM , USA
15. Editorial Board Member of IJCA, USA
16. **Reviewer Journal of Digital Imaging, SSN: 0897-1889 (Print) 1618-727X (Online) (Springer)**
17. **Reviewer Journal of Pattern Recognition Research, ISSN 1558-884X.**

PUBLICATIONS

INTERNATIONAL AND NATIONAL JOURNALS

1.   Morphological Reconstruction for Word level Script Identification, International Journal of Computer Science and Security, Vol.1, Issue: 1, pp. 41-51, 2006.
2.   On Separation English Numerals from Multilingual Document Images, Journal of Multimedia, Academy Publisher, Vol.2, Issue 6, pp. 26-33, 2007.
3.   Multi-font English Character Recognition based on Modified Invariant Moments, Journal of Combinatorial Mathematics and Combinatorial Computing, Vol.67, pp 153-162, 2007.
4.   Global + local (Glocal) features Based Script Identification System for Indian Multi Script Documents, Journal of Computer Science, Vol. 2, Issue 2, pp. 2007
5.   Tri-scripts Handwritten Numeral Recognition: A Novel Approach, Advances in Computational Research, Vol. 1, Issue 2, pp. 47-51, 2009
6.   Script Identification In Indian Document Images Based On Directional Morphological Filters, International Journal of Recent Trends in Engineering (IJRTE), Vol.2, Issue 2, pp. 124-126, 2009.
7.   Offline Handwritten Script Identification in Document Images, International Journal of Computer Applications, Vol.4, Issue 5, pp. 1-5, 2010.
8.   A Survey on Deformable Model and its Applications to Medical Imaging ,International Journal of Computer Applications, A Special Issue on "Recent Trends in Image Processing and Pattern Recognition", Issue 2, pp. 64-75, 2010
9.   Kannada, Telugu and Devanagari Handwritten Numeral Recognition with Probabilistic Neural Network: A Novel Approach", International Journal of Computer Applications, A Special Issue on "Recent Trends in Image Processing and Pattern Recognition", Issue 2, pp. 83-88, 2010
10. Multi-font/size Kannada Vowels and Numerals Recognition Based on Modified Invariant Moments, International Journal of Computer Applications, A Special Issue on "Recent Trends in Image Processing and Pattern Recognition ", Issue 3, pp. 126-130, 2010
11. Spatial Features for Handwritten Kannada and English Character Recognition, International Journal of Computer Applications, A Special Issue on "Recent Trends in Image Processing and Pattern Recognition ", Issue 3, pp. 146-151, 2010

12. Kannada, Telugu and Devnagari Handwritten Numeral Recognition with Probabilistic Neural Network: A Script Independent Approach, International Journal of Computer Applications, Vol. 26, Issue 9, pp. 11-16, July 2011

13. Kannada and English Numeral Recognition System, International Journal of Computer Applications, Vol.26, Issue 9, pp. 17-22, 2011

14. A Script Independent Approach for Handwritten Bilingual Kannada and Telugu Digits Recognition, International Journal of Machine Intelligence, Vol.3, Issue 3, 2011, pp. 155-159, 2011

15. Mixture of Printed Kannada Numerals and Vowels Recognition System, World Journal of Science and Technology, Vol. 1, Issue :8, pp. 109-114, 2011

16. A Recognition System for Handwritten and Printed Kannada Numerals and Vowels, International Journal of Image Processing and Vision Sciences (IJIPVS), Volume-1 Issue-1 ,2012 ,pp.12-17, 2012

17. **A Recognition System for Handwritten Kannada and English Characters, International Journal of Computational Vision and Robotics (IJCVR),Vol. 2, Issue 2, pp.290-301,2011**

18. Printed and Handwritten Kannada Numerals Recognition using Directional Stroke and Directional Density with KNN, International Journal of Machine Intelligence Vol. 3, Issue 3, pp. 212-125, 2011

19. **A Zone Based Character Recognition Engine for Kannada and English Scripts, Elsevier Procedia Engineering, Vol. 38, Pages 3292-3299, 2012**

20. Writer Identification by Texture Analysis based on Kannada Handwriting, International Journal of Communication Network Security ISSN: 2231 1882, Volume - 1, sue - 4, PP.no.80-85

21. Script Identification using Discrete Curvelet Transforms. IJCA Proceedings on National Conference on Recent Advances in Information Technology NCRAIT (4):16-20, February 2014. Published by Foundation of Computer Science, New York, USA.

INTERNATIONAL AND NATIONAL CONFERENCES

22. Analysis of   Abnormality in Endoscopic Images using Combined HSI Color space and Watershed Segmentation" in proceedings of 18th International Conference on Pattern Recognition (ICPR-2006),Vol. 4, pp. 695 – 698, 20 - 24 August, Hong Kong, 2006

23. Script Identification Based on Morphological Reconstruction in Document Images" in proceedings of 18th International Conference on Pattern Recognition (ICPR-2006), Hong Kong, vol. 2, pp. 950-953, 2006

24. Word-wise Script Identification from Bilingual Documents based on Morphological Reconstruction, in proceedings of First International Conference on Digital Information Management (ICDIM-2006), pp. 157-160, Bangalore, 2006

25. Word-wise Script Identification Based on Morphological Reconstruction in Printed Bilingual Documents, in proceedings of IET International Conference on Visual Information Engineering, VIE 2006, Bangalore, India, pp. 389-393, 2006

26. Word level Script Identification through Discriminating Features, in proceedings of International Conference on Signal Processing, Communications and Networking (ICSCN- 2007),pp. 630 – 635, 2007

27. Handwritten Script Identification based on Fuzzy K-Nearest Neighbour, in proceedings of IEEE International Conference on Signal and Image Processing (ICSIP-2006), Hubli, India, ISBN: 978-0230-63003-1, pp. 587-591, 2006

28. Word level Script Identification from Handwritten document images using Morphological Filters, in proceedings of IEEE International Conference on Advances in Computer Vision and Information Technology (ACVIT-2007), Aurangabad, India.pp.1268-1275, 2007

29. Shape and Morphological Transformation Based Features for Language Identification in Indian Document Images, in proceedings of First International Conference on Emerging Trends in Engineering and Technology, Nagpur, Maharashtra, pp 1175-1180, 2008

30. Skew Detection in Binary Image Documents Based on Image Dilation and Region labeling Approach, in proceedings of 18th International Conference on Pattern Recognition (ICPR-2006), Vol. 2, pp. 954-957, 20 - 24 August, Hong

Kong, 2006

31. Multi-font Numeral Recognition without Thinning based on Directional Density of Pixels, in proceedings of First International Conference on Digital Information Management (ICDIM-2006), pp. 157-160, December 06-08, Bangalore, India, 2006

32. Endoscopic Image Classification based on Active Contours without Edges, in proceedings of First International Conference on Digital Information Management (ICDIM-2006), pp. 157-160, December 06-08, Bangalore, India, 2006

33. Multi-font English Character Recognition based on Modified Invariant Moments, in proceedings of International Conference on Mathematics and Computer Science (ICMCS),pp. 363-366, Loyola College, Chennai, 1-3, March-2007,

34. Isolated Kannada Handwritten Numeral Recognition based on Template Matching, in proceedings of IEEE International Conference on Advances in Computer Vision and Information Technology (ACVIT-2007), pp. 1276-1282 ,Aurangabad, India,Nov.28-30 2007.

35. Unconstrained Handwritten Kannada Numerals Recognition based on Image Fusion Approach", in proceedings of IEEE International Conference on Advances in Computer Vision and Information Technology (ACVIT-2007), pp 1224-1230 ,Aurangabad, India, Nov.28-30 2007

36. Global and Local Features based Handwritten Text words and Numerals Script Identification, in proceedings in International Conference Computational Intelligence and Multimedia Applications (ICCIMA-2007),pp 471-475,Sivakasi, 13-15, Dec-2007

37. Handwritten Kannada Numerals Recognition Based on Structural Features, in proceedings of International Conference Computational Intelligence and Multimedia Applications (ICCIMA-2007), pp 224-228Sivakasi, 13-15, Dec-2007

38. Recognition of Isolated Handwritten Kannada Numerals Based on Image Fusion Approach with K- folds Cross Validation, in proceedings International Conference, PreMi2007, pp. 153-160,ISI, Kolkotta, 2007

39. Multi-Font Character Recognition without Thinning Based on Directional Density of Pixels, in proceedings of International Conference on Intelligent Systems and Networks(IISN-2007), pp. Iagadhri, Hriyana, Feb 23-25, 2007

40. Language Identification from Indian Document Images, in proceedings of Second International Conference on Cognition and Recognition - ICCR 08,pp. 107-113,Mysore University, Mysore 2008

41. Script Independent Handwritten Numerals Recognition Using Structural Features, in proceedings of International Conference on Signal and Image Processing (ICSIP), pp 92-100,VIT Mysore,12-14, August, 2009

42. Spatial Features for Multi-Font/Multi-Size Kannada Numerals Recognition, in proceedings of International Conference on Communication, Computation, Control and Nano Technology (ICN-2010),PP. 731-734, REC, Bhalki, Karnataka,2010

43. Handwritten Kannada Vowels and English Character Recognition System, in proceedings of International Conference on Computer Science and Information System (CSIT-2011),PP.47-52, Bangalore, 24-25, July, 2011

44. South Indian Handwritten Script Identification at Block Level from Trilingual Script Document Based on Gabor Features, In Proceedings of Multimedia Processing, Communication and Computing Applications (Springer: Lecture Notes in Electrical Engineering), Bangalore, pp. no.25-33, 2013.

45. Gaussian Mixture Model for Handwritten Script Identification, In Proceedings of International Conference on Emerging Trends in Electrical, Communication and Information Technologies (ICECIT-2012), Published by Elsevier Ltd. Anantpur, AP. India, pp no.64-69.

46. Statistical Texture Features based Classification of Handwritten and Printed Text in South Indian Documents, In Proceedings of International Conference on Emerging Trend in Electrical, Communication and Information Technologies (ICECIT-2012), Published by Elsevier Ltd. Anantpur, AP. India, pp no. 215-221, 2012.

47. Multi Font and Multi Size Kannada Numeral Recognition Based on Structural Features, in proceedings of Second National Conference on Emerging Trends in Information Technology (eIT 2007) Baramati, pp. 193-199, 2009.

48. Tri-scripts Handwritten Numerals Recognition: A novel Approach, in proceedings of UGC sponsored National Conference on Recent Trends in Information Technology (RTIT-2009), Mandya, pp. 92-100,2009

49. A Single Euler Number Feature for multi-font Multi- size Kannada Numeral Recognition UGC sponsored National

Conference on Recent Trends in Information Technology (RTIT-2009), Mandya, pp. 101-106, 2009

50. On-line and Off-line Handwritten Indiac Script Character Recognition, in proceedings of National Seminar on Recent Trends in Image Processing and Pattern Recognition (RTIPPR 2010), Bidar, pp. 31-36, 2010

51. Bi-lingual Handwritten Numeral Recognition with Probabilistic Neural Network: A Novel Approach, in proceedings of National Seminar on Recent Trends in Image Processing and Pattern Recognition (RTIPPR 2010), Bidar, pp. 31-36, 2010

52. Multi-font Kannada vowels Recognition based on Modified Invariant Moments, in proceedings of National Seminar on Recent Trends in Image Processing and Pattern Recognition (RTIPPR 2010), Bidar, pp. 31-36, 2010

53. Handwritten Kannada Numerals and Vowels Recognition Based on Spatial Features, in proceedings of National Seminar on Recent Trends in Image Processing and Pattern Recognition (RTIPPR 2010), Bidar, pp-37-41,2010

RECENT PUBLICATIONS

54. Directional Discrete Cosine Transform for Handwritten Script Identification, ICDAR-2013 International Conference on Document Image Analysis and Recognition (ICDAR-2013) , Washington DC, USA, August 25-28, PP.No. 344-348.

55. Handwritten Kannada Digit Recognition Based on Discrete Wavelet Transform Filters", International Conference on Convergence of Science, Engineering and Management in Education and Research- A Global Perspective IInd Edition, held at Dayananda College of Institutions, Bangalore, September 26th -27th 2013.

56. Word-level Handwritten Script Identification in Multi-script Documents communicated to RAIT, Department of Computer Science & Engineering Indian School of Mines (ISM) Dhanbad – India (accepted).

BOOKS AND JOURNAL ARTICALES EDITED

1. Multilingual Document Image Analysis, LAP Lambert Acad. Publ., 2011,ISBN 3844390944, 9783844390940
2. Recent Trends in Image Processing and Pattern Recognition, Excel India Publisher, ISBN:978-93-80043-74-6
3. International Journal of Computer Applications- Special Issue: - Recent Trends in Image Processing and Pattern Recognition, Foundation of Computer Science, New York, and ISSN: 0975-8887.

RESOURCE PERSON

1. Paper Presentation Session Chair @ International Conference on Cognition and Recognition (ICCR-2011), December 9th & 10th, 2011, Mysore University, Mysore, India.
2. Invited Talk on "**Mathematical Morphology for Multilingual Document Image Analysis**", at UGC Sponsored Three Days National Level Workshop on Digital Image Processing & Pattern Recognition (DIPPR-2011), Nov-3-5, 2011Govt. College, Mandya,(Autonomous) Karnataka, India.
3. Paper Presentation Session Chair @ Second International Conference on Communication, Computation, Control, Management and Nanotechnology (ICN 2011), Sep 23-25, 2011, REC, Bhalki, Karnataka, India.
4. Paper Presentation Session Chair @ First International Conference on Communication, Computation, Control and Nanotechnology (ICN 2010), October 29- 30, 2010, REC, Bhalki, Karnataka, India.
5. Invited Talk on "**Recent Trends in Multilingual Document Image Analysis"** at National Level Workshop on Image Processing, Vision and Pattern Recognition (NWIVPR 2010), March 29-30, 2010, Dharwad, Karnataka, India.
6. Invited Talk on **Information and Communication Technology,** @TETPAP, Jointly Organized by KKC and CEG-April 22, 2011, Gulbarga University, Gulbarga
7. Invited Talk on **Information and Communication Technology,** @ TETPAP, Jointly Organized by KKC and CEG-May

18, 2011, Gulbarga University, Gulbarga

8. Invited Talk on **Information and Communication Technology,** @ TETPAP, Jointly Organized by KCK and CEG-July 23, 2011, Gulbarga University, Gulbarga

9. Invited Talk on **Information and Communication Technology,** @ TETPAP, Jointly Organized by KCK and CEG-Sep 21-2011, Gulbarga University, Gulbarga

10. Invited Talk on **Information and Communication Technology,** @ TETPAP, Jointly Organized by KCK and CEG-Oct 20,21, 2011, Gulbarga University, Gulbarga

11. Invited Talk on **Information and Communication Technology,** @ TETPAP, Jointly Organized by KCK and CEG-Dec-07, 2011, Gulbarga University, Gulbarga

12. Invited Talk on **Information and Communication Technology,** @ TETPAP, Jointly Organized by KCK and CEG-Feb-15, 2012 ,Gulbarga University, Gulbarga

13. Invited Talk on **"Feature Extraction: A Core of Image Recognition System", SRTM, University, Latur, Maharashtra, 15.10.2013.**

14. Invited talk on **"Mathematics in Digital Image Processing: Fundamentals and Applications", Rajarshi Shahu College, Latur, 17.1.2014.**

15. Invited Talk Session Chair **"Machine Learning and Pattern Recognition", UGC Sponsored Two Days National Level Seminar held on 1 and 2 Feb. 2014 at C.B.College, Bhalki.**

16. Paper Presentation Session Chair: **National Conference on Recent Advances in Information Technology (*NCRAIT – 2014*) held at Solapur University, Solapur on 15 and 16th Feb. 2014.**

17. Invited talk on "**Introduction to Matlab**" in Science Academies of India organized **'Refresher Course on Recent Trends in Computer Science and Engineering: Refreshing the Young Minds,** from 10 March to 22 March 2014. GND Engineering College, Bidar, 17.3.2014.

18. Invited talk on **"Introduction to Computer Vision"** in VTU-VGST sponsored four days faculty development programme on Future Research Trends & Innovations in Information, Communication & Technology, 11th May 2014 at BKIT, Bhalki.

EXPERIENCE

1. Coordinator, Internal quality assurance cell since July 2012
2. Head, Department of Computer Science (PG) 2010 to till date
3. Head, Department of Computer Science (UG), 2003 to 2012
4. Associate Professor @ Karnatak Arts, Science and Commerce College, Bidar (15.11.2007 to till date)
5. Senior Grade lecturer @ Karnatak Arts, Science and Commerce College, Bidar (15.11.2004 to 14.11.2007)
6. Senior Scale lecturer @ Karnatak Arts, Science and Commerce College, Bidar (15.11.1999 to 14.11.2004)
7. Lecturer @ Karnatak Arts, Science and Commerce College, Bidar (11.8.1993 to 14.11.1999)

RESEARCH INTRESTS

☐ Image progressing and Pattern recognition

1. Character Recognition
2. Handwriting Recognition
3. Graphics Recognition
4. Document Image Analysis
5. Document Understanding

6. Document Analysis Systems
7. Camera-based Document Processing
8. Document Databases and Digital Libraries
9. Forensic Science
10. Analysis of Historical Documents

H-INDEX

1. Google Scholar: 10

2. Scopus   : 04