DETAILED RESUME

1.0 PERSONAL DETAILS:

NAME Dr. P. NAGABHUSHAN

BE (1980), M.Tech.(1983), Ph.D.(1988), FIE (2002), FIETE (2010), FIAPS (2017)

RESIDENTIAL ADDRESS Poorna Prema, Ground Floor, Malgudi Apartments,

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OFFICIAL ADDRESS DIRECTOR, Indian Institute of Information Technology

Allahabad (an Institute of National Importance)

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(M)

E-mail: director@iiita.ac.in, pnagabhushan@iiita.ac.in

pnagabhushan@hotmail.com,

DATE OF **B**IRTH May 04, 1958

PLACE OF BIRTH Mysore city, India

Married – Wife: Mrs. Lakshmi Bhushan (1962),

DAUGHTER: Mrs. Poornima Bhushan(1986)

2.0 EDUCATION DETAILS:

2.1 Professional:

1984 - 1988: Ph. D- Doctorate degree under the supervision of Dr. K. Chidananda

Gowda, Then: Professor & Head, Dept of Computer Science & Engg., Later: Principal, S. J. College of Engineering Mysore - 570006, India. Subsequently: Vice-Chancellor, Kuvempu University, Karnataka, India. Title: An efficient method for the classification of remotely sensed

DATA. (INCORPORATING DIMENSIONALITY REDUCTION)

Research Problem: Involved Feature Reduction, Color Composition and Cluster Analysis related to Pattern Recognition, Image Processing and

Remote Sensing

1981 - 1983: M.Tech - Master of Science-Engineering, Birla Institute of Technology,

MESRA, Ranchi - 835215, India.

First position holder all through.

Thesis: Computer Aided Network Analysis-involved the development of efficacious algorithms for rigorous analysis of interconnected multiport systems using indefinite admittance matrix model.

1975 - 1980:

B.E Bachelor of Engineering - Electronics & Communication, S. J. College of Engineering, Mysore - 570006, India. Recognized as top 5% student.

Project:PREPROCESSOR AIDED STRUCTURE INCORPORATED FORTRAN-a proposal to provide structured programming constructs for FORTRAN-IV using which structured program design could not have been realized.

2.2 Additional:

1984: An intensive course on Theoretical Computer Science, IIT, Madras, India.

1988: An intensive course on Digital Image Processing, (applied to Remote

Sensing) RRSSC, Govt. of India, Bangalore.

1996: An intensive course on Information Technology.

2.3 Fellowships

FIAPS-Fellow of International Association of Physical Sciences	2017
FIETE-Fellow of Institution of Electronics and Telecommunication Engineering	2010
FIE - Fellow of Institution of Engineers	2002

3.0 Professional Experience:

May 2017-Present:

- *DIRECTOR* Indian Institute of Information Technology, Allahabad, Prayagraj
- Serving as Chairman, Senate & Chairman, Building Works Committee, IIIT Allahabad, Prayagraj
- Chairman of Kendriya Vidyalaya Sangathan, IIIT Allahabad, Prayagraj

May 2019-Jan. 2021

• Served as Officiating Chairman, Board of Governors & Finance Committee, IIIT Allahabad, Prayagraj

May 2017-July 2019

• Served as Mentor Director of IIIT Lucknow

Nov 1996 - May 2020

- Professor, Dept. of Studies in Computer Science, University of Mysore, Manasagangotri, Mysore-570006, INDIA.
- CHIEF NODAL OFFICER: choice based credit pattern continuous assessment education system, University of Mysore since Jun 2011 upto May 2017
- Has been responsible in motivating the introduction of Choice based Credit Patterned Continuous assessment education system in the Universities of Gujarath, Lakshmi

- Bai National University for Physical Education, Gwalior, Madhyapradesh.
- June 2011- Nov 2011: DIRECTOR, Centre for Information Science and Technology, University of Mysore.
- *DIRECTOR* Planning Monitoring and Evaluation Board, (PMEB), University of Mysore from May 2009 to May 2010.
- NOMINATED AS DEAN- SCIENCE & TECHNOLOGY OF UNIVERSITY OF MYSORE from 1 Jan. 1998 - 15 Jan. 1999.
- Served as **Chairman** of the Department from 01.01.97 to 01.01.2004 and from 01.01.2006 to 01.01.2008
- Served as **Chairman**, Board of Studies in Computer Science (for several terms), University of Mysore, Mysore
- Actively associated with academic (PG programs) and research programs in JSS Research foundation (affiliated to University of Mysore), and in PES Research centre (affiliated to University of Mysore), Mysore, INDIA.

May 2010-May 2011: DIRECTOR-Bangalore Educational Society for Technology Advancement and Research (BESTAR) and PRINCIPAL – Bangalore Technological Institute, Kodathi, Off Sarjapur Road, BANGALORE – 560 035 Karnataka, INDIA.

July 2004-June 2005: DISTINGUISHED PROFESSOR, Amrita Vishwavidya Peetam, Deemed University, Coimbatore, during sabbatical year. Also served as Chairman of committee for Post-graduate Studies and Research of Amrita University for one term during this period.

Nov 1995 - Oct 1996: VISITING SCIENTIST, Dept. of Studies in Computer Science, University of Mysore, Manasagangotri, Mysore-570006, India

Nov 1994 - Oct 1996: *Professor*, Dept. of Computer Science & Engg., S. J. College of Engineering, Mysore-570006, India

Jan 1988 - Nov 1994: Asst. Professor, Dept. of Computer Science & Engg., S. J. College of Engineering, Mysore-570006, India

May 1983 - Dec 1987: Lecturer, Dept of Computer Sc. & Engg., S. J. College of Engineering, Mysore-570006, India

Aug 1981 – 1983: Delivered regular lectures on request at Birla Inst. of Technology, MESRA, Ranchi-835215

Sep 1980 – Aug 1981: Lecturer (Temporary), Dept. of Computer Sc. & Engg., S. J. College of Engineering, Mysore-570006, India

4.0 Professional Positions held:

- 1. Presently **DIRECTOR** Indian Institute of Information Technology Allahabad (IIITA).
- 2. Serving as Chairman, Senate & Chairman, Building Works Committee, IIIT Allahabad, Prayagraj
- 3. Served as Officiating Chairman, Board of Governors & Finance Committee, IIIT Allahabad, Prayagraj
- 4. Served as Mentor Director of IIIT Lucknow

- 5. Serving as **Chairman of Kendriya Vidyalaya Sangathan**, IIIT Allahabad, Prayagraj
- 6. **CHIEF NODAL OFFICER:** Choice based Credit Patterned Continuous Assessment Education System, University of Mysore.
- 7. UNIVERSITY NODAL CONTACT Global Initiative for Academic Networking (GIAN) &CHAIRMAN, Academic Reformation Committee.
- 8. **MENTOR & CHAIRMAN** for Specialized Studies in Design, Creative Arts and Tibetan Studies.
- Presently serving as CHAIRMAN-Flexible CBCS System, University of Mysoreand CHAIRMAN-PhD regulation, University of Mysore, Board of Studies in Computer Science of University of Mysore, SchoolMember of University of Hyderabad, Technical Advisory Committee Member, Indian Statistical Institute (ISI), Kolkata.
- 10. **DIRECTOR**, Center for Information Science and Technology, University of Mysore.
- 11. **DIRECTOR**-Bangalore Educational Society for Technology Advancement and Research (BESTAR) and *PRINCIPAL*-Bangalore Technological Institute, Kodathi, Off Sarjapur Road, BANGALORE 560 035 Karnataka, INDIA.
- 12. **Director** Planning Monitoring and Evaluation Board, University of Mysore May 2009 to May 2010
- 13. Chairman, Department of Studies in Computer Science, University of Mysore, 1.1.1997 to 1.1.2004 and from 1.1.2006 to 1.1.2008.
- 14. Dean- Science & Technology, University of Mysore, 1 Jan. 1998 to 15 Jan 1999.
- 15. Chairman- Committee for Post-graduate Studies and Research (CPGSR) of Amrita University, 2004-2005.
- 16. Member- Senate, University of Mysore.
- 17. Member- Academic Council, University of Mysore.
- 18. Member- Academic Council, Amrita University.
- 19. Member- Faculty of Science & Technology, University of Mysore.
- 20. Chairman- Board of Studies in Computer Science, Board of Studies in Electronics.
- 21. Chairman- Board of Examiners.
- 22. Member in BOS and BOE of University of Mysore and other Universities.
- 23. Member- Faculty of Science & Technology, Engineering of other Universities.
- 24. Member- Technical Advisory Committee, Indian Statistical Institute, Kolkata, India
- 25. Served as Chairman, Vice Chairman, Computer Society of India, Mysore Chapter, and served as Vice Chairman of Kannada Ganaka Parishath, Mysore Chapter.
- 26. Senior Member-IEEE, USA
- 27. Life Member (928), Indian Society for Technical Education (ISTE).
- 28. Life Member (8672), Computer Society of India (CSI).
- 29. Life Member (F 108138-8), Institution of Engineers (IE).
- 30. Life Member (F 217087), Institute of Electronics and Telecommunication Engineers (IETE)
- 31. Life Member (L-017), IAPR&AI.
- 32. Life Member(L-26402), Indian Science Congress Association
- 33. As a working member of All India Board (AICTE) for Computer science, applications and Information Technology.

- 34. Professional expert/Subject expert /Accreditor / Expert member in various bodies such as UGC/AICTE/DST/PSC.
- 35. Staff Council Secretary, SJCE Mysore for 2 years
- 36. Student Welfare Officer, SJCE Mysore for 2 years
- 37. Deputy to Director Technical, JSS Mahavidyapeetha, SJCE Campus, Mysore for one year.
- 38. Participated and participating as an expert in the selection / promotion of scientists/ Engineers, faculty (Lecturers, Readers, and Professors) for various Govt. institutes, research labs, universities and organizations.
- 39. Chair, Co-chair, Programme Committee member for several International, National Conferences and Workshops.
- 40. Advisory Chair, Editor for Proceedings of several International and National Conferences.
- 41. On editorial board of many journals.

5.0 ACADEMIC AND PROFESSIONAL ACCOMPLISHMENTS:

I. Academic:

- Designed and successfully implemented the following graduate programs:
- M.Tech Computer Science and Technology
- MSc.(Tech./M.Tech.) by Research
- M.Tech Computer Cognition Technology
- MS (Integrated) Computer Systems

- PhD programs
 - Designed and successfully implemented Choice Based, Credit Based Continuous Assessment and Grading Pattern for teaching-learning

II. At IIIT-A:-

- Established High Performance Computing & Cloud Facility.
- Introduced Choice & Credit Linked Continuous Assessment and Award (CCLCAA) at both PG (M.Tech. & MBA) and UG (B.Tech.) levels.
- Introduced two new B.Tech Programs (B.Tech. Information technology-Business Informatics, & B.Tech. Information Technology-Mass Media Informatics in process)
- Introduced Add on Diploma/Certification Specialisation Honours/Minor Honours along with B.Tech. degree.
- Created a novel platform to accomplish Industry-Institute Interaction in a more fertile and meaningful way by introducing (i) M.Tech. by research (ii) MBA for working professionals and (iii) Ph.D. for working professionals.
- Provided the entry for international students for M.Tech., MBA and Ph.D. courses.
- Introduced TRA (Tutor cum Research Assistant) and TRF (Teacher cum Research Faculty) positions to attract and encourage the young academicians/researchers as post doctoral fellows.
- Have been personally supervising the design and development of a software for the implementation of Choice & Credit Linked Continuous Assessment and Award.

- Introduced the concept of three semesters in a year, by including a summer semester.
- Introduced offering of credit transfer courses for the benefit of students from other institutions.
- Introduced to quantify Summer Workshops, Summer Internship, in terms of credits
- Introduced Summer Internship for students from other institutes
- Introduced conducting workshops for identifying prospective Ph.D. candidates
- Responsible for introducing the concept of MoUs to support and handhold Engineering Colleges.
- Responsible in getting several MoUs signed with international universities/institutes
- Responsible for signing a MoU with ISRO to enable Scientists/Engineers at ISRO to enrol for M.Tech. by research/MBA by research and Ph.D. degree under working professional mode.
- Conceived and implemented the theme entitled "Beyond Twenty by 2020" at IIIT Allahabad, Prayagraj on its passage through 20 years since its inception in 1999. Under this many international/national conferences, seminars, workshops are being organised.
- Responsible for bringing out a new Ordinance (inspired by NEP 2020) to introduce provision for providing credit equivalence for the candidates taking up entrepreneurship, innovation-internship, mission based exploration etc. by creating blank semester/temporary exit-re-entry options during the study period itself.
- Responsible for creating multiple exit options-certification, diploma, B.Sc. and B.Tech. in a newly introduced twin stream B.Tech. program composed of theme stream and an allied stream of study.

Professional:

Have been associated as advisory chair, program chair, steering chair of many international / national conferences, workshops and symposiums

- 1. Have been working as a referee/reviewer for International Journals and International Conferences in the areas of Pattern Recognition, Image Processing, Document Analysis, Algorithms
- 2. Have been working on Editorial Committee of several Indexed Journals
- 3. Have presented technical papers, delivered Endowment Lectures /invited lectures, conducted tutorials and chaired technical sessions in several International and National Conferences, symposiums, seminars and workshops
- 4. Presented and published papers in National/International Journals and Conferences
- 5. Presented papers in several winter/summer schools and orientation schools
- 6. Invited to deliver special lectures, offer courses and design courses at other Engineering colleges and universities
- 7. Has been invited as Visiting Professor by Gurunanak University and by University of Kashmir, have been identified as a mentor for Ph.D. activities at University of Kashmir

- 8. Assisted Kashmir University, Amrita Vishwa Vidyapeetam (Deemed University) in various academic and research activities
- 9. Have been involved in designing new PG programs in Computer Science & Technology for University of Mysore and other universities
- 10. Have the experience of coordinating Govt. of India funded research programs and an international research project
- 11. Worked and have been working as an active member in curriculum revision committees of PG and UG studies in Computer Science and Engineering & Information Technology
- 12. Coordinating and coordinated M.Tech/M.S programs, M.Sc (Technology). by research, MCA and Ph.D programs and coordinated Ph.D, M.Tech, MCA and BE programs at S. J. College of Engineering, Mysore
- 13. Designed and implemented the following programs in University of Mysore
 - a. M.Tech Computer Science & Technology Supported by UGC, Govt. of India, India A cross migration program.
 - b. M.Tech Computer Cognition Technology Supported by UGC, Govt. of India, India, under Innovative scheme.
 - c. MS (6 semester scheme) Integrated Master's degree in Computer Systems.
 - d. M.Tech(Computer Application) a joint initiative and a cooperative program between academic institutes and a professional institute.

Have been responsible and provided the leadership in instituting Credit based Choice based Continuous assessment for M.S and M.Tech programs. This is conceived for the first time in the University of Mysore

- 14. Invited by Knowledge Commission Gujarat (KCG) for introducing Credit based Choice based Education in all the Universities of Gujarat.
- 15. Also instrumental in inducing Credit based, Choice based, Continuous Assessment in LakshmiBai National University for Physical Education, Gwalior, Madhya Pradesh.
- 16. Organized and directed the following:
 - a. General Chair- 5th International Conference on Computer Vision and Image Processing (CVIP2020) at IIIT Allahabad.
 - b. Patron- ADASIVA2018, ADASIVA2019, CICT2019, MISP2019, and several other events at IIIT Allahabad.
 - c. Advisory Chair for the series of International Conference on Cognition and Recognition (ICCR) starting from 2005.
 - d. Advisory Chair for the IEEE International Conference series on Signal and Image Processing, (ICSIP) starting from 2006.
 - e. Served as Advisory Chair for many other international and national conferences in the theme area.
 - f. Program Chair National workshop on frontiers of Pattern Recognition and Image processing, New Horizon College of Engineering, Mar. 2006.
 - g. Chair- Technical session on Symbolic Data Analysis, in International Conference on Pattern Recognition and Machine Intelligence, Dec. 2005.

- h. Co-chair, International Conference on Advanced Computing and Communications, ADCOM-2005.
- i. Chair- International Conference on Cognition and Recognition, 2005.
- j. Chair- National Conference on Document Analysis and Recognition, 2003.
- k. Chair- National Conference on Document Analysis and Recognition, 2001.
- 1. Delivered a session on Automation of Pitman Shorthand in International workshop on Document Analysis, 2005.
- m. International Conference in Combinatorics, Statistics, Pattern Recognition and related areas (Dec. 1998) as joint secretary.
- n. International Conference on Document Analysis and Research (IAPR)-1999 as an organizing committee member
- o. A Tutorial presentation session on Symbolic Data Analysis in the International workshop held by Leads University (UK) and ISI, Calcutta in Jan 99.
- p. A Special lecture on the use of Symbolic Data Analysis in Remote Sensing Applications in the Center for Space Science and Technology Education in Asia and Pacific (Affiliated to UN).
- q. As general chair of XIX Annual Conference of Indian Society of professional social work (2000).
- r. Organized several national conferences, tutorials and workshops in the area of Pattern Recognition, Image Processing and symbolic data analysis.
- s. Organized many short term courses, workshops
- t. Organized a correspondence cum contact Computer Education Program for practicing Engineers and Scientists on Computational Techniques-comprising of Numerical, Statistical, Simulation & Operations Research techniques
- 17. Have been an active resource person for the following technical teachers' training programs:
 - a. Programming and Programming Methodology (Software Engineering, Analysis and Design of Algorithms).
 - b. Computer Oriented Mathematical Methods.
 - c. Digital Computer Hardware.
- 18. Have been a resource person for several ISTE summer/ winter schools. I was a major associate in the following schools
 - a. Neural Networks at S. J. College of Engg., Mysore.
 - b. Symbolic and Fuzzy approaches for data analysis at S J College of Engg., Mysore.
 - c. Symbolic data analysis and its applications at University of Paris IX, Dauphine, France.
 - d. Artificial Neural Network at SJCE, Mysore.
 - e. Cognition and Recognition applications, at University of Mysore, Mysore.
 - f. Document analysis and recognition, at PESCE, Mandya.
- 19. An expert member of AICTE commissions and UGC commissions

- 20. Worked as a founder convener in introducing the ideas of campus wide Network & INTERNET for the campus of University of Mysore.
- 21. Worked as a founder convener in initiating the idea of establishing a non-formal skill training centre in the University of Mysore called Center for Information Science & Technology (CIST).
- 22. Associated with Confederation of Indian Industries (CII) (South Centre, Mysore) as a member of a working group pertaining to the education in Computer Science & Information Science.

6.0 **RESEARCH RECOGNITION:**

6.1 **Research:**

- 1. Investigating an in-house research project related to Continuous Assessment at IIIT Allahabad, Prayagraj. (Version 1 completed and technology transferred, Version 2 has just begun).
- 2. Proposal submitted to UGC under Innovative program to institute M.Tech. Computer Cognition Technology is accepted and is funded.
- 3. AICTE, India has supported a research project in thrust area on Parallel Algorithms
- 4. ISRO has supported a research project on Dimensionality Reduction and Data Reduction (One research scholar completed Ph.D. based on this)
- 5. Indian Council for Medical Research has supported the research project on Computer application to analyze trace element inter-relationships in Serum of normal, Alzheimer's and parkinson's disorder: A relevance to diagnostic approach (One research scholar completed Ph.D. based on this).
- 6. UGC has supported a major research project on Postal automation (One research scholar completed Ph.D. based on this.
- 7. Successfully completed a DRDO, Govt. of India sponsored project Classification of Multispectral Data (One research scholar completed Ph.D. based on this
- 8. Successfully completed a MHRD, Govt. of India Sponsored Industry -Institution Interaction project -An efficient method for Stock Cutting Problem. (Technology transferred to BEML, Mysore).
- 9. Worked as a Joint Collaborator in INDO-FRENCH Advanced Research Project Symbolic Clustering of Satellite Image data which successfully completed in July 1997. (One research scholar completed Ph.D. based on this)
- 10. Several projects under thrust area / R&D are approved by MHRD/AICTE, Govt. of India. The themes of these projects are parallel algorithms for computer vision applications, neural networks for image processing, and speech processing
- 11. Research proposal submitted for CSIR- Golden Jubilee Young Scientists research award was approved in principle- However it could not get funded due to lack of funds.
- 12. Our research papers have been cited in the monograph on the SODAS (Symbolic Official Data Analysis Software), very high level European project- being compiled by Prof. Dr. H. H. Bock of Germany and Prof. Dr. Edwin Diday of France.
- 13. Have been supervising research scholars towards Ph.D.
- 14. Have been guiding several BE, M.Sc (Engg/Tech), M.Sc, MCA and M.Tech thesis/project works

- 15. Host Scientist- Dr. Alain Djimile, an international CV Raman Fellow from Africa.
- 16. Functioned as interfacing resource person for the installation of video surveillance monitoring system for advanced research and development activities in collaboration with Indian Institute of Science(IISc), Bangalore. The system is donated by the team from IISc, Bangalore.
- **17. MHA-BPR&D** National Research project on CCPWC -A WEB BROWSER BASED INTELLIGENT KERNEL TOOL FOR AUTOMATIC DETECTION AND BLOCKING OF OBSCENE IMAGE AND VIDEO CONTENTS IN REAL TIME

6.2 Research Candidates:

No. of Candidates who have been awarded Ph.D.				
No. of Candidates working towards Ph.D.	05			
No. of Candidates who have been awarded M.Tech. (M.Sc-Tech)	10			
No. of Candidates who have worked for M.Tech Project/Thesis	Plenty			

6.3 Areas of Academic Interest:

Pattern Recognition - Image Processing - Remote Sensing - Feature reduction Cluster Analysis - Multistage classification - Exploiting the inherent parallel
computational possibilities to devise parallel algorithms for the above problems,
Dimensionality reduction integrated classification, Character recognition by
dimensionality reduction, Automation of Pitman's short hand, Computer vision,
Object recognition, Image analysis, Image compression, Artificial Intelligence,
Symbolic data analysis for Pattern Recognition and Image Processing applications,
Fuzzy approaches, Neural Network approaches, Cognition and recognition for path
planning, Document Image Analysis, Document Language recognition, Distance
measures, Postal automation, Knowledge mining, Time series data, Incremental
learning, Image Security.

2. Algorithms:

- a. Graph theoretic algorithms
- b. Computational techniques
- c. Operations Research problems
- d. Analysis of interconnected multiport systems
- e. Simulation and Modeling
- 3. Image Processing and Pattern Recognition in Compressed Images, Compressed Data Analytics TIFF, JPEG and JPEG2000.

6.4 Foreign Academic Assignments:

1994 -PARIS, FRANCE

Carried out research work in the areas of Pattern Recognition, Remote Sensing and Image Processing applications in INRIA and University of Dauphine, Paris, France for about a semester on Indo-French research assignment.

1995 - TOKYO, JAPAN

Invited as a Visiting Professor at the Dept of Systems Engineering, Tokyo Denki University, Japan for a semester. Supervised the work of two PhD Candidates and delivered lectures on Dimensionality Reduction.

1996 -Paris, France

Worked in the University of Dauphine Paris, and INRIA on an advanced research assignment by IFCPAR in the area of Symbolic data analysis for Pattern Recognition, Image Processing and Remote Sensing applications.

1997 - Paris, France

Worked as an active member with Dr. K. Chidananda Gowda in taking a team of 10 members from India to University of Dauphine, Paris, France in connection with Indo-French Seminar on Symbolic Data Analysis.

1999 - MICHIGAN, USA

Had been to the Department of Computer Science, Saginaw Valley State University, Michigan as an exchange/consulting Professor. During this period, was invited by the Department of Computer Science & Engineering, Michigan State University, East Lancing, Michigan.

1999 - PARIS, FRANCE

Had been to LISECEREMADE, University of Dauphine, Paris as an Invited Professor.

2008 - Khartoum - Sudan

Had been to the University of Medical Science and Technology for assessing the programs in Computer Science and Technology.

2011- Moscow - Russia

Had been to the University of Moscow, Moscow, Russia as a team member of Bilateral Indo-Russia Workshop.

6.5 International Academic & Research Collaborations

- 1. **Dr. Edwin Diday,** CEREMADE Paris Dauphine University, Paris, France
- 2. **Dr. Maria Paula Brito,** Faculdade de Economia, Universidade do Porto, Portugal
- 3. **Dr. Ahlame Douzal Chouakria,** TIMC-IMAG CNRS, Universite Joseph Fourier, France
- 4. Dr. Morteza Marzjarani, Saginaw Valley State University, USA
- 5. **Dr. Sergio D. Cabrera**, The University of Texas at El Paso, USA

- 6. Dr. Anil K. Jain, Michigan State University, USA
- 7. **Dr. Michael Blumenstein**, Griffith University, Australia
- 8. Dr. Sargur N. Srihari, University at Buffalo, USA
- 9. **Dr. Chew Lim Tan**, NUS, Singapore
- 10. Dr. Archil Maisuradze, Lomonosov Moscow State University, Russia

7.0 **RESEARCH GUIDANCE**

7.1 TITLES OF Ph.D. THESIS COMPLETED UNDER MY SUPERVISION:

- 1. Some New Methodologies for Symbolic Data Analysis, (Dr. T. V. Ravi; Patenting Expert Philips Inc)
- Image Characterization through New Image Attributes & Approaches.(Dr. KLG Kulkarni
 After completing the term as Principal of an Engineering College, he is working as an Expert on Outcome based education and accreditation)
- 3. Neural Network and Knowledge based System for Conflict resolution: A new approach (An extensive study with unconstrained handwritten numerals). (**Dr. NV Subba Reddy** was Vice Chancellor, Modi University Rajasthan; was Director Manipal Sikkim University; Senior Professor, MIT, MAHE, Manipal)
- 4. Coding of Satellite Image Data. (**Dr. Jagannath** After completing his term as Scientist at ISRO, he is working as a Professor in an Engineering College)
- 5. On Automation of Text Production from Pitman-Short Hand Notes (Pattern Recognition algorithms for the recognition of simple phonetic words). (**Dr. G.Hemanth Kumar**, Professor, Chairman, Dept. of Studies in Computer Science, University of Mysore; Sitting Vice Chancellor, University of Mysore)
- 6. Classification of Remotely Sensed Data: Some New Approaches.(Dr. HN Srikanta Prakash Senior Consultant, Business Analytics, Chicago, USA)
- 7. Towards Accurate Recognition of Objects Employing a Partial Knowledge Base: Some New Approaches. (**Dr. DS Guru** Professor & Chairman, Dept. of Studies in Computer, University of Mysore; Founder Member of Maharaja Education Trust, Mysore)
- 8. Cognition of obstacles and free space for motion planning. (Dr. M.Manohar Pai Chairman Information & Communication Engineering; Dean, Research & Development at MAHE, Manipal)
- 9. Rigorous Pattern Shape Analysis useful for automatic Text generation from Pitman Shorthand Document (Incorporating an investigation on text compression also).(Dr. S.Murali Professor & Head, Dept. of Computer Science & Engineering; President Maharaja Education Trust Mysore, Runs two Engineering colleges, Degree colleges, Schools, Ayurvedic Medical College)
- 10. Integration of Knowledge base and Natural Language Processing in Automatic Recognition of Pitman Short hand Documents. (Dr. BS Anami -Principal, KLE Engineering College Hubli, Karnataka)
- 11. Some new approaches for Image Pattern Analysis through Dimensionality Reduction.(Dr. R Lalitha Rangarajan Retired Professor, Dept. of Studies in Computer Science, University of Mysore)
- 12. An Algorithmic Model for Exploratory Analysis of Trace Elements in Cognition and Recognition of Neurological Disorders.(**Dr. Sanjay Pandey** Professor & Head, Dept. of Computer Science & Engineering, Davangere Engg. College, Davangere)
- 13. Intelligent Algorithmic Models for 3D Object Recognition.(Dr. B.H.Shekar Professor & Chairman, Dept. of CS, Mangalore University, Mangalore)
- 14. Decamouflaging through Image Processing and Pattern Recognition techniques (Dr. NU

- **Bhajantri-** Professor & Head, Dept. of CSE, Govt. Engg. College Chamarajanagar, Karnataka)
- 15. Wavelets for knowledge mining in multidimensional generic databases (**Dr. Pradeep Kumar** CEO &CTO Amphisoft, E-Box Ventures, HQ- Coimbatore, Tamil Nadu)
- 16. An intelligent integrated automation system for efficient processing of postal mail (**Dr. Vinay Angadi** Professor & Head & Chairman, Dept. of Computer Science & Engg. Belgaum Campus, VTU Belagavi, Karnataka)
- 17. Data Extraction: An attempt towards Dynamic Variants and Adaptive Recognition.(Dr. Meharaj Uddin -was Professor & System Manager, Kashmir University Srinagar, J&K)
- 18. Equivalence amongst document images at multiple levels through hierarchical structural attributes.(Dr. Sahana Gowda Professor & Head, Dept. of CSE, BNMIT, Bangalore, Karnataka)
- 19. Enhancing the readability of foreground-text in document images with noisy/complex background.(**Dr. Nirmala Shivanand** Professor & Head, Dept. of CSE, JNN College of Engg. Shivmoga, Karnataka)
- 20. Automatic Segmentation of Persian Handwritten Text Enabling Accurate recognition (Dr. Alireza Alaei Senior Lecturer, Australia)
- 21. Incremental Learning: Some Exploratory Studies (**Dr. Syed Zakir Ali**, Principal, SECAB Engg. College Bijapur, Karnataka)
- 22. Multi-Layered 3D Modeling (Dr. SS Mirkamali Assistant Professor, Iran)
- 23. Digital Image Confidentiality: A Novel Perspective (**Dr. Jagadish Prabhu** Professor & Head, Dept. of CSE, JSS Institute of Technology, Bangalore, Karnataka)
- 24. Design, Development and Implementation of Efficient and Reliable Wavelet based Watermarking Technique for Colour Images (**Dr. Javed Giri** Associate Professor, Islamic University, Awantipora, J&K, Srinagar)
- 25. On the Possibility of Processing Document Images in Compressed Domain (Dr. Mohammed Javed Assistant Professor, IIIT Allahabad, Prayagraj, U.P.)
- **26.** Producing a Readable Text File from Text Dominant Video Images(**Dr. Vimuktha** Associate Professor, GAT, Bangalore)
- 27. Target Class Guided Dimensionality Reduction and Consequent Image Compression (Dr. Meenakshi INFOSYS Mysore)
- 28. Incremental dimensionality reduction in high dimensional databases(Dr. Preethi Mahadev Senior Manager, INFOSYS Mysore)
- 29. Segmentation and Recognition of Handwritten Arabic Text Under Totally or Quasi Supervised Scenarios (**Dr.Hashem Ali Mohammed Ghaleb** Assistant Professor, YEMEN)
- **30.** Machine as One Player in Cowry Board Game (**Dr. Pouyan Davoudian** IRAN)
- 31. Segmentation in Compressed Document Images (Dr. Amarnath R With start up Bangalore)
- 32. Entry-Exit Surveillance (**Dr. Vinay Kumar V** Has his own start up)
- 33. Dimensionality Reduction of Distributed Data for Target Specific Mining (Dr. Sanjay Kumar Sonbhadra, IIITA)

7.2 Titles of M.Sc. Technology (By Research) Thesis Completed Under My Supervision:

- 1. Identification of Occluded Objects useful in Vision Applications.
- 2. Similarity and Dissimilarity Measures in Symbolic Data Analysis.
- 3. Software for Pin code Extraction and Validation: A step towards Postal Automation in India.
- 4. Towards Cataloguing of Satellite Images using Neural Networks based Data Mining Techniques.
- 5. Some Visual Clues based Procedures for Language Identification in MultiLingual Documents.
- 6. Document layout extraction (Using Voronoi Diagram technique) for classification of Documents.
- 7. Recognition of disorders in infants by the cognition of deviations in cry features through symbolic data analysis.
- 8. An OCR-less approach to establish the equivalence between two Degraded and/or scaled Document Images.
- 9. An OCR-less approach for Automatic Scoring and Correction of children's hand written dictated text
- 10. Automatic Extraction of Attributes from Bank Cheque Images for Updation of DB of Clearance-Transactions.

7.3 TITLES OF ONGOING RESEARCH WORKS UNDER MY SUPERVISION:

PH.D

- 1. Auto-filling of forms (Mr. Mallinath Prasad)
- 2. Image Confidentiality (Mr. Kapil Mishra)
- 3. Strike off and overwritten text recognition (Mrs. Shubhangi)
- 4. Text and non-text segmentation using wavelet on JPEG2000 (Ms. Tejasvee Bisen)
- 5. Learning Mechanisms for the Machine in Playing Imperfect Information Board Game (Mr. Putla Harsha)

7.4 APPRECIATIONS:

- 1. IEEE Educator of the Year Award 2021 from IEEE UP Section, Jan 16, 2022.
- 2. Education Excellence Award by Dainik Jagran, Nov. 2019
- 3. FIAPS-Fellow of International Association of Physical Sciences
- 4. FIETE-Fellow of Institution of Electronics and Telecommunication Engineering.
- 5. FIE-Fellow of Institution of Engineers.
- 6. Visiting Professor for the year 2009 by ISTE New Delhi.
- 7. ICCR-08 Outstanding Academician and Researcher- Award in appreciation of life time contribution to the field of Computer Science and Engineering.
- 8. ICICOT 07 Outstanding Academician.
- 9. IEEE ICSIP 06 Award in appreciation of life time contribution to the field of Signal and Image Processing.
- 10. Highly Performing Alumina Mahajana Educational Society's Mahajana Junior College, MYSORE.
- 11. The Sponsored Project by ISRO on Dimensionality Reduction was regarded as the top project of the year.

- 12. Some of the journal papers were listed as the top papers of the respective years.
- 13. Lifetime Achievement Award RTIP2R 16 For Outstanding Achievement, Global Leadership and Dedicated Service to the field of Image Processing and Pattern Recognition.
- 14. National Merit Scholar throughout +2, graduate and post-graduate studies.

7.5 RESEARCH PUBLICATIONS:

Total Number of Research **Papers-539+** (30% Journals, 30% International Conference Proceedings. About 120+ papers are highly acclaimed **DBLP indexed**)

[Citations - 2884, H-Index - 28, i10-Index- 82, as on 28-01-2022]

RESEARCH PUBLICATIONS

8.1 Top Cited Papers in Google Scholar



P. Nagabhushan

Professor of Computer Science, <u>University of Mysore</u>, Mysore - 570006 Verified email at compsci.uni-mysore.ac.in

Pattern Recognition Digital Image Processing Artificial Intelligence Document Image Analysis Data Mining

<u>Title</u>	Cited by	<u>Year</u>		
A simple and robust line detection algorithm based on small eigenvalue analysis				
DS Guru, BH Shekar, P Nagabhushan	<u>171</u>	2004		
Pattern Recognition Letters 25 (1), 1-13				
Adaptive dissimilarity index for measuring time series proximity				
AD Chouakria, PN Nagabhushan	<u>144</u>	2007		
Advances in Data Analysis and Classification 1 (1), 5-21				
Multivalued type proximity measure and concept of mutual similarity value				
useful for clustering symbolic patterns	<u>113</u>	2004		
DS Guru, BB Kiranagi, P Nagabhushan	113	2001		
Pattern Recognition Letters 25 (10), 1203-1213				
A new scheme for unconstrained handwritten text-line segmentation				
A Alaei, U Pal, P Nagabhushan	<u>107</u>	2011		
Pattern Recognition 44 (4), 917-928				
(2D) 2 FLD: An efficient approach for appearance based object recognition				
P Nagabhushan, DS Guru, BH Shekar	<u>62</u>	2006		
Neurocomputing 69 (7-9), 934-940				
Skew detection in binary image documents based on image dilation and region				
<u>labeling approach</u>	<i>C</i> 1	2006		
BV Dhandra, VS Malemath, H Mallikarjun, R Hegadi				
18th International Conference on Pattern Recognition (ICPR'06) 2, 954-957				
Identification and separation of text words of Kannada Hindi and English				
languages through discriminating features	60	2002		
MC Padma, P Nagabhushan	<u>60</u>	2003		
Proceedings of NCDAR-2003, pp-252-260				
Boundary based corner detection and localization using new'cornerity'index: A				
robust approach				
DS Guru, R Dinesh, P Nagabhushan	<u>48</u>	2004		
First Canadian Conference on Computer and Robot Vision, 2004.				
Proceedings				
Using modified contour features and SVM based classifier for the recognition of	2	2000		
Persian/Arabic handwritten numerals	4/	2009		

A Alaei, U Pal, P Nagabhushan 2009 Seventh International Conference on Advances in Pattern Recognition		
Script identification based on morphological reconstruction in document images		
BV Dhandra, P Nagabhushan, M Hangarge, R Hegadi, VS Malemath	<u>47</u>	2006
18th International Conference on Pattern Recognition (ICPR'06) 2, 950-953		
Triangular spatial relationship: a new approach for spatial knowledge		
representation PNA 11 1	<u>43</u>	2001
DS Guru, P Nagabhushan		
Pattern Recognition Letters 22 (9), 999-1006		
Parallel Levenberg-Marquardt-Based Neural Network Training on Linux Clusters-A Case Study.		
NNRR Suri, D Deodhare, P Nagabhushan	<u>42</u>	2002
ICVGIP, 1-6		
Dataset and ground truth for handwritten text in four different scripts		
A Alaei, U Pal, P Nagabhushan	37	2012
International Journal of Pattern Recognition and Artificial Intelligence 26		-
A benchmark Kannada handwritten document dataset and its segmentation		
A Alaei, P Nagabhushan, U Pal	<u>37</u>	2011
2011 International Conference on Document Analysis and Recognition, 141-145	. —	
A robust color image watermarking scheme using discrete wavelet		
transformation	<u>36</u>	2015
KJ Giri, MA Peer, P Nagabhushan	<u>30</u>	2013
IJ Image, Graphics and Signal Processing 1, 47-52		
Dimensionality reduction of symbolic data		
P Nagabhushan, KC Gowda, E Diday	<u>36</u>	1995
Pattern recognition letters 16 (2), 219-223		
Fine classification of unconstrained handwritten Persian/Arabic numerals by		
removing confusion amongst similar classes	2.5	2000
A Alaei, P Nagabhushan, U Pal	<u>35</u>	2009
2009 10th International Conference on Document Analysis and Recognition, 601-605		
A fuzzy statistical approach of Kannada Vowel Recognition based on Invariant		
Moments		
P Nagabhushan, SA Angadi, BS Anami	<u>35</u>	2003
Proc. of NCDAR-2003, 275-285		
A novel technique for estimation of skew in binary text document images based		
on linear regression analysis	2.4	2005
P Shivakumara, GH Kumar, DS Guru, P Nagabhushan	<u>34</u>	2005
Sadhana 30 (1), 69-85		
Automatic extraction of texture-periodicity using superposition of distance		
matching functions and their forward differences	<u>33</u>	2012
V Asha, P Nagabhushan, NU Bhajantri	<u>33</u>	2012
Pattern Recognition Letters 33 (5), 629-640		
A new two-stage scheme for the recognition of Persian handwritten characters		
A Alaei, P Nagabhushan, U Pal	<u>32</u>	2010
2010 12th International Conference on Frontiers in Handwriting Recognition		
GLCM-based chi-square histogram distance for automatic detection of defects	20	2011
on patterned textures	<u>29</u>	2011
V Asha, NU Bhajantri, P Nagabhushan		

International Journal of Computational Vision and Robotics 2 (4), 302-313		
Text extraction in complex color document images for enhanced readability	20	2010
P Nagabhushan, S Nirmala Intelligent Information Management 2 (02), 120	<u>29</u>	2010
Tracing and straightening the baseline in handwritten persian/arabic text-line: A		
new approach based on painting-technique	1	
P Nagabhushan, A Alaei	<u>28</u>	2010
International Journal on Computer Science and Engineering 2 (4), 907-916		
Modified region decomposition method and optimal depth decision tree in the		
recognition of non-uniform sized characters—An experimentation with Kannada		
characters	<u>28</u>	1999
P Nagabhushan, RM Pai		
Pattern Recognition Letters 20 (14), 1467-1475		
A three-dimensional neural network model for unconstrained handwritten		
numeral recognition: a new approach	20	1998
NVS Reddy, P Nagabhushan	<u>28</u>	1998
Pattern Recognition 31 (5), 511-516		
Piece-wise painting technique for line segmentation of unconstrained		
handwritten text: a specific study with Persian text documents	<u>27</u>	2011
A Alaei, P Nagabhushan, U Pal	<u>27</u>	2011
Pattern Analysis and Applications 14 (4), 381-394		
Extraction of projection profile, run-histogram and entropy features straight		
from run-length compressed text-documents	<u> 26</u>	2014
M Javed, P Nagabhushan, BB Chaudhuri	_	
arXiv preprint arXiv:1404.0627		
Archival and retrieval of symbolic images: An invariant scheme based on		
triangular spatial relationship DS Guru, P. Punitha, P. Nagabhushan	<u>25</u>	2003
DS Guru, P Punitha, P Nagabhushan Pattern Recognition Letters 24 (14), 2397-2408		
Attenuation of quorum-sensing-dependent virulence factors and biofilm		
formation by medicinal plants against antibiotic resistant Pseudomonas		
aeruginosa	<u>24</u>	2018
PS Ganesh, VR Rai	<u></u>	_010
Journal of traditional and complementary medicine 8 (1), 170-177		
A painting based technique for skew estimation of scanned documents		
A Alaei, U Pal, P Nagabhushan, F Kimura	<u>23</u>	2011
2011 International Conference on Document Analysis and Recognition, 299-303	3	

8.2 DBLP INDEXED PUBLICATIONS



P. Nagabhushan 🛦 🕹 🛠 🗸 🗩

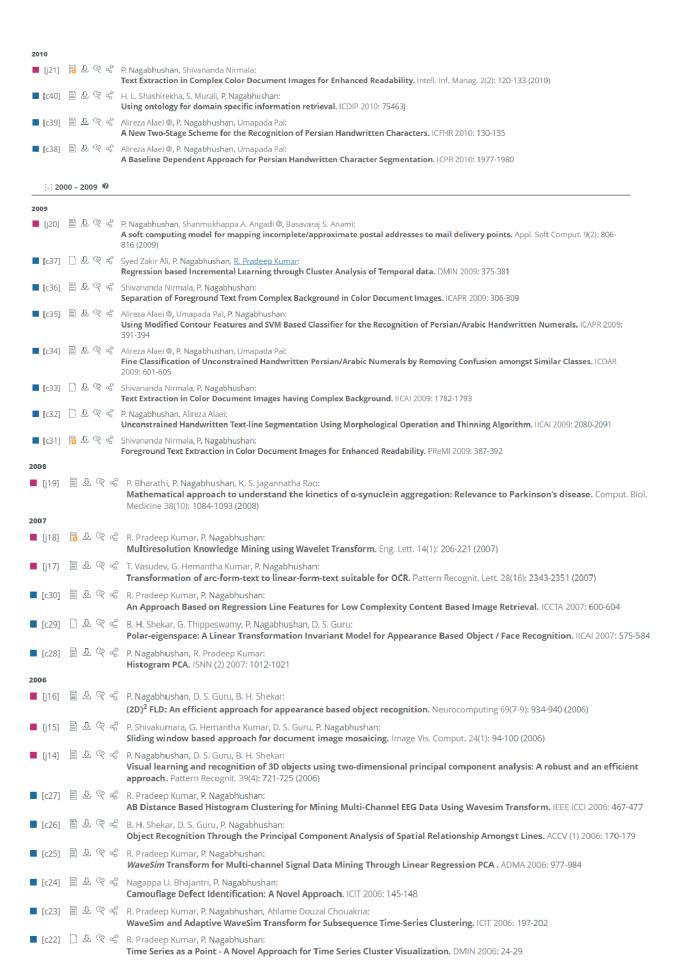
> Home > Persons

[-] **2020 -** today **0**

2020		
[j40]	₽ ₩ ₩	Bulla Rajesh, Mohammed Javed, P. Nagabhushan: Automatic tracing and extraction of text-line and word segments directly in JPEG compressed document images. IET Image Process. 14(9): 1909-1919 (2020)
■ [j39]	᠍ ひ ♥ 歳	Shamshe Alam, Sanjay Kumar Sonbhadra, Sonali Agarwal ©, P. Nagabhushan: One-class support vector classifiers: A survey. Knowl. Based Syst. 196: 105754 (2020)
[j38]	₽ & ≪	Kapil Mishra , Sannihith Kavala, Satish K. Singh, P. Nagabhushan: Efficient collusion resistant multi-secret image sharing. Multim. Tools Appl. 79(43-44): 33233-33252 (2020)
■ [j37]	8 ₽ € €	Shamshe Alam, Sanjay Kumar Sonbhadra , Sonali Agarwal , P. Nagabhushan, Muhammad Tanveer: Sample reduction using farthest boundary point estimation (FBPE) for support vector data description (SVDD). Pattern Recognit. Lett. 131: 268-276 (2020)
[c64]	₫ & ♥ ₡	Bulla Rajesh, Mohammed Javed, P. Nagabhushan, Watanabe Osamu: Segmentation of Text-Lines and Words from JPEG Compressed Printed Text Documents Using DCT Coefficients. DCC 2020: 389
■ [i22]	<u>₽</u> & & &	Sanjay Kumar Sonbhadra, Sonali Agarwal, P. Nagabhushan: Target specific mining of COVID-19 scholarly articles using one-class approach. CoRR abs/2004.11706 (2020)
■ [i21]	<u>₹</u> ₽ & €	Sonali Agarwal, Narinder Singh Punn, Sanjay Kumar Sonbhadra, P. Nagabhushan, K. K. Soundra Pandian, Praveer Saxena:
		Unleashing the power of disruptive and emerging technologies amid COVID-19: A detailed review. CoRR abs/2005.11507 (2020)
■ [i20]	<u>₽</u> & & &	Mohammed Javed, P. Nagabhushan: Automatic Page Segmentation Without Decompressing the Run-Length Compressed Text Documents. CoRR abs/2007.01142 (2020)
■ [i19]	B & & &	Seyed Saeid Mirkamali, P. Nagabhushan: Depth-wise layering of 3d images using dense depth maps: a threshold based approach. CoRR abs/2010.01841 (2020)
■ [i18]	<u>₽</u> ひぐぺ	Sanjay Kumar Sonbhadra, Sonali Agarwal, P. Nagabhushan: Early-stage COVID-19 diagnosis in presence of limited posteroanterior chest X-ray images via nove

2019			
■ [j36]] 🗏	亚岭	Mohammed Javed, P. Nagabhushan, Bidyut B. Chaudhuri, Satish K. Singh ©: Edge based enhancement of retinal images using an efficient JPEG-compressed domain technique. J. Intell. Fuzzy Syst. 36(1): 541-556 (2019)
■ [j35]] 🗏	T &	Amarnath R, G. S. Sindhushree, P. Nagabhushan, Mohammed Javed: Automatic localization and extraction of tables from handheld mobile-camera captured handwritten document images. J. Intell. Fuzzy Syst. 36(3): 2527-2544 (2019)
[c63]] 🗏	₽ 🤻	% Bulla Rajesh, Mohammed Javed, P. Nagabhushan: Automatic Text Line Segmentation Directly in JPEG Compressed Document Images. GCCE 2019: 1067-1068
■ [i17]] 📑	卫令	Amarnath R, P. Nagabhushan: Text line Segmentation in Compressed Representation of Handwritten Document using Tunneling Algorithm. CoRR abs/1901.11477 (2019)
■ [i16]] 📑	T 6	% Bulla Rajesh, Mohammed Javed, P. Nagabhushan: Automatic Text Line Segmentation Directly in JPEG Compressed Document Images. CoRR abs/1907.12219 (2019)
■ [i15]] =	亚 会	Vinay Kumar V, P. Nagabhushan: Monitoring of people entering and exiting private areas using Computer Vision. CoRR abs/1908.00716 (2019)
■ [i14]] 🖟	正令	Vinay Kumar V, P. Nagabhushan: Appearance invariant Entry-Exit matching using visual soft biometric traits. CoRR abs/1909.05145 (2019)
] =	T 6	Amarnath R, P. Nagabhushan, Mohammed Javed: Word and character segmentation directly in run-length compressed handwritten document images. CoRR abs/1909.05146 (2019)
2018 ■ [j34]] 🗏	<u> </u> 모 약	Mohammed Javed, P. Nagabhushan, Bidyut B. Chaudhuri: A review on document image analysis techniques directly in the compressed domain. Artif. Intell. Rev. 50(4): 539-568 (2018)
[c62]] 🗏	T &	% Amarnath R, P. Nagabhushan, Mohammed Javed: Enabling Text-Line Segmentation in Run-Length Encoded Handwritten Document Image Using Entropy-Driven Incremental Learning. CVIP (1) 2018: 233-245
[c61]] 🗏	T 6	ි V. Vinay Kumar ©, P. Nagabhushan, S. N. Roopa: Entry-Exit Video Surveillance: A Benchmark Dataset. CVIP (1) 2018: 353-364
[c60]] 🗏	T 6	Amarnath R, P. Nagabhushan, Mohammed Javed: Line Detection in Run-Length Encoded Document Images using Monotonically Increasing Graph Model. ICACCI 2018: 644-649
2017 [c59]	n 🗏	(D. C	ಳ್ಳ್ Hashem Ghaleb, P. Nagabhushan, Umapada Pal:
[(33)	, =		Segmentation of offline handwritten Arabic text. ASAR 2017: 41-45
[c58]		卫 癸 (Mohammed Javed, P. Nagabhushan, Bidyut B. Chaudhuri: A comparative study of two recent word spotting techniques in the run-length compressed domain. ICACCI 2017: 824-830
■ [i12]	8	正今,	6 Amarnath R, P. Nagabhushan: Spotting Separator Points at Line Terminals in Compressed Document Images for Text-line Segmentation. CoRR abs/1708.05545 (2017)
2016		п	
■ [j33]		亚 岭。	An efficient method for video shot boundary detection and keyframe extraction using SIFT-point distribution histogram. Int. J. Multim. Inf. Retr. 5(2): 89-104 (2016)
[c57]		正学。	රි Mohammed Javed, P. Nagabhushan, Bidyut Baran Chaudhuri: Spotting of Keyword Directly in Run-Length Compressed Documents. CVIP (1) 2016: 367-376
[c56]		正今,	Mohammed Javed, P. Nagabhushan, Bidyut B. Chaudhuri: Automatic Extraction of Text and Non-text Information Directly from Compressed Document Images. HIS 2016: 38-46
2015		п	
■ [j32]			Seyed Saeid Mirkamali (1), P. Nagabhushan: Object removal by depth-wise image inpainting. Signal Image Video Process. 9(8): 1785-1794 (2015)
■ [c55]			Mohammed Javed, P. Nagabhushan, Bidyut Baran Chaudhuri: Automatic extraction of correlation-entropy features for text document analysis directly in run-length compressed domain. ICDAR 2015: 1-5
[c54]		T 6,	Mohammed Javed, P. Nagabhushan, Bidyut Baran Chaudhuri: A direct approach for word and character segmentation in run-length compressed documents with an application to word spotting. ICDAR 2015: 216-220
2014			
■ [i11]	3	T 66	Mohammed Javed, P. Nagabhushan, B. B. Chaudhuri: Direct Processing of Run Length Compressed Document Image for Segmentation and Characterization of a Specified Block. CoRR abs/1402.1971 (2014)
■ [i10]	8	正学。	Mohammed Javed, P. Nagabhushan, B. B. Chaudhuri: Automatic Detection of Font Size Straight from Run Length Compressed Text Documents. CoRR abs/1402.4388 (2014)
■ [i9]	3	正学。	V. Asha, Nagappa U. Bhajantri, P. Nagabhushan: Texture Defect Detection in Gradient Space. CoRR abs/1403.2031 (2014)
■ [i8]	B	T 66 (Mohammed Javed, P. Nagabhushan, B. B. Chaudhuri: Extraction of Line Word Character Segments Directly from Run Length Compressed Printed Text Documents. CoRR abs/1403.7783 (2014)
■ [i7]	3	₽ ¢	Mohammed Javed, P. Nagabhushan, B. B. Chaudhuri: Extraction of Projection Profile, Run-Histogram and Entropy Features Straight from Run-Length Compressed Text-Documents. CoRR abs/1404.0627 (2014)

	[i6]	3	Ţ	₹ %	P. Nagabhushan, Mohammed Javed, B. B. Chaudhuri: Entropy Computation of Document Images in Run-Length Compressed Domain. CoRR abs/1404.2014 (2014)
	[i5]	3	T	₹ &	Abdessamad Elboushaki, Rachida Hannane, P. Nagabhushan, Mohammed Javed: Automatic Removal of Marginal Annotations in Printed Text Document. CoRR abs/1408.2015 (2014)
-	[i4]	3	T	₹ &	Mohammed Javed, P. Nagabhushan, Bidyut Baran Chaudhuri: Direct Processing of Document Images in Compressed Domain. CoRR abs/1410.2959 (2014)
20	13				
	[j31]	3	T	₹ &	Nagappa U. Bhajantri, Pradeep Kumar R, P. Nagabhushan: Discriminatory Projection of Camouflaged Texture Through Line Masks. J. Inf. Process. Syst. 9(4): 660 (2013)
	[c53]		T	₹ &	Mohammed Javed, P. Nagabhushan, B. B. Chaudhuri: Extraction of Projection Profile, Run-Histogram and Entropy Features Straight from Run-Length Compressed Text-Documents. ACPR 2013: 813-817
	[c52]		$\overline{\mathbf{T}}$	₹ &	Steven Lawrence Fernandes, G. Josemin Bala, P. Nagabhushan, S. K. Mandal: Robust Face Recognition in the Presence of Noises and Blurring Effects by Fusing Appearance Based Techniques and Sparse Representation. ADCONS 2013: 84-89
	[c51]		T	₹ &	Mohammed Javed, P. Nagabhushan, B. B. Chaudhuri: Extraction of line-word-character segments directly from run-length compressed printed text-documents. NCVPRIPG 2013: 1-4
	[i3]	3	T	₹ &	V. Asha, Nagappa U. Bhajantri, P. Nagabhushan: Periodicity Extraction using Superposition of Distance Matching Function and One-dimensional Haar Wavelet Transform. CoRR abs/1311.3808 (2013)
20	12				
	[j30]		Ţ	₹ &	V. Asha , Nagappa U. Bhajantri, P. Nagabhushan: Similarity measures for automatic defect detection on patterned textures. Int. J. Inf. Commun. Technol. 4(2/3/4): 118-131 (2012)
	[j29]		Ţ	₹ %	Alireza Alaei ®, Umapada Pal, P. Nagabhushan: Dataset and Ground Truth for Handwritten Text in Four Different Scripts. Int. J. Pattern Recognit. Artif. Intell. 26(4) (2012)
	[j28]	3	Ţ	₹ &	V. Asha (a), Nagappa U. Bhajantri, P. Nagabhushan: Automatic Detection of Texture-defects using Texture-periodicity and Jensen-Shannon Divergence. J. Inf. Process. Syst. 8(2): 359-374 (2012)
•	[j27]		T	₹ &	V. Asha ©, P. Nagabhushan, Nagappa U. Bhajantri: Automatic extraction of texture-periodicity using superposition of distance matching functions and their forward differences. Pattern Recognit. Lett. 33(5): 629-640 (2012)
	[j26]		T	₹ &	Shivananda Nirmala, P. Nagabhushan: Foreground text segmentation in complex color document images using Gabor filters. Signal Image Video Process. 6(4): 669-678 (2012)
	[c50]		Ţ	₹ &	Alireza Alaei , Umapada Pal, P. Nagabhushan: A Comparative Study of Persian/Arabic Handwritten Character Recognition. ICFHR 2012: 123-128
	[c49]		₩ (₹ %	S. S. Mirkamali, P. Nagabhushan: Depth-wise image inpainting. ICPR 2012: 141-144
	[c48]		T C	₹ ≪	Syed Zakir Ali, P. Nagabhushan, R. Pradeep Kumar, Nisar Hundewale: Sequence Compulsive Incremental Updating of Knowledge in Learning Management Systems. KMO 2012: 295-306
	[i2]				V. Asha, Nagappa U. Bhajantri, P. Nagabhushan: GLCM-based chi-square histogram distance for automatic detection of defects on patterned textures. CoRR abs/1212.0383 (2012)
	[i1]	8	Tr c	₹ %	V. Asha, Nagappa U. Bhajantri, P. Nagabhushan: Automatic Detection of Texture Defects Using Texture-Periodicity and Gabor Wavelets. CoRR abs/1212.1329 (2012)
201			_		
	[j25]		Tr c	₹ %	V. Asha , Nagappa U. Bhajantri, P. Nagabhushan: GLCM-based chi-square histogram distance for automatic detection of defects on patterned textures. Int. J. Comput. Vis. Robotics 2(4): 302-313 (2011)
	[j24]	8	T (₹ %	V. Asha , Nagappa U. Bhajantri, P. Nagabhushan: Automatic Detection of Defects on Periodically Patterned Textures. J. Intell. Syst. 20(3): 279-303 (2011)
	[j23]		T	₹ €	Alireza Alaei , P. Nagabhushan, Urnapada Pal: Piece-wise painting technique for line segmentation of unconstrained handwritten text: a specific study with Persian text documents. Pattern Anal. Appl. 14(4): 381-394 (2011)
	[j22]		T (₹ ≪	Alireza Alaei , Umapada Pal, P. Nagabhushan: A new scheme for unconstrained handwritten text-line segmentation. Pattern Recognit. 44(4): 917-928 (2011)
	[c47]		T (₹ ~	S. S. Mirkamali , P. Nagabhushan: Depth-Wise Multi-layered 3D Modeling. DCAI 2011: 407-414
	[c46]		T (₹ %	Alireza Alaei (5), P. Nagabhushan, Umapada Pal: A Benchmark Kannada Handwritten Document Dataset and Its Segmentation. ICDAR 2011: 141-145
	[c45]		<u>r</u>	₹ €	Alireza Alaei (5), Umapada Pal, P. Nagabhushan, Fumitaka Kimura: A Painting Based Technique for Skew Estimation of Scanned Documents. ICDAR 2011: 299-303
	[c44]		T C	₹ %	Alireza Alaei ©, P. Nagabhushan, Umapada Pal: A New Text-Line Alignment Approach Based on Piece-Wise Painting Algorithm for Handwritten Documents. ICDAR 2011: 324-328
	[c43]		T (₹ %	V. Asha, Nagappa U. Bhajantri, P. Nagabhushan: Automatic Detection of Texture Defects using Texture-Periodicity and Chi-square Histogram Distance. IICAI 2011: 91-104
	[c42]				V. Asha, P. Nagabhushan, Nagappa U. Bhajantri: Unsupervised Detection of Texture Defects using Texture-Periodicity and Universal Quality Index. IICAI 2011: 206-217
•	[c41]		T (₹ ≪	S. S. Mirkamali, P. Nagabhushan: Depth-Wise Segmentation of a 3D Image Using its Depth Map: An Entropy-Based Approach. IICAI 2011: 1089-1099





■ [c10] 🗏 😃 🤻 📽 P. Shiyakumara, G. Hemantha Kumar, D. S. Guru, P. Nagabhushan:

An Efficient Skew Estimation Technique for Binary Document Images Based on Boundary Growing and Linear Regression Analysis. ICONIP 2004: 659-665

2003

■ [j8] 🖹 🕹 약 📽 D. S. Guru, P. Punitha, P. Nagabhushan:

Archival and retrieval of symbolic images: An invariant scheme based on triangular spatial relationship. Pattern Recognit. Lett. 24(14): 2397-2408 (2003)

■ [c9] 🖹 😃 🥰 📽 P. Shivakumara, G. Hemantha Kumar, D. S. Guru, P. Nagabhushan:

Fourier Transform Based Column-Block and Row-Block Matching Procedure for Document Image Mosaicing. WILF 2003: 240-254

2002

📕 [c8] 🗋 🕹 🤏 🤻 N. N. R. Ranga Suri, Dipti Deodhare, P. Nagabhushan:

Parallel Levenberg-Marquardt-Based Neural Network Training on Linux Clusters - A Case Study. ICVGIP 2002

📕 [c7] 🔋 🕹 역 📽 P. Nagabhushan, Basavaraj S. Anami, D. S. Guru:

Dictionary Supported Generation of English Text from Pitman Shorthand Scripted Phonetic Text. Language Engineering Conference 2002: 33

2001

📕 [j7] 🗏 🕹 🤏 🤗 P. Nagabhushan, M. M. Manohara Pai:

Cognition of free space for planning the shortest path: A framed free space approach. Pattern Recognit. Lett. 22(9): 971-982 (2001)

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