

*Curriculum Vitae***B. YEGNANARAYANA**

Professor and Microsoft Chair
 International Institute of Information Technology
 Gachibowli, Hyderabad - 500 032, India

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 Indranagar, Gachibowli, Hyderabad - 500 032, India

Date of Birth:

January 9, 1944, Rajahmundry, India

Academic Qualifications:

- PhD, Indian Institute of Science, Bangalore, 1974
- ME, Indian Institute of Science, Bangalore, 1966
- BE, Indian Institute of Science, Bangalore, 1964
- BSc, Andhra University, Waltair, 1961

Experience:**Work in India**

- International Institute of Information Technology, Hyderabad, Professor and Microsoft Chair, from July 2006
- Indian Institute of Technology Madras, Head, Dept. of CS & E, Feb. 1985 - Nov. 1989
- Indian Institute of Technology Madras, Professor, 1980-2006
- ISRO, Bangalore, Visiting Scientist, July-Dec. 1980
- Indian Institute of Science, Bangalore, Assistant Professor, 1974-78
- Indian Institute of Science, Bangalore, Lecturer, 1967-74
- Indian Institute of Science, Bangalore, Sr. Research Assistant, 1966-67

Work Abroad

- CSTR, Edinburgh, UK, June 2008
- IDIAP, Switzerland, June-July 2007
- University of Maryland, College Park, USA, Visiting Professor, May-July 2004
- CMU, Pittsburgh, Visiting Professor, May-July 2003
- University of Maryland, College Park, USA, Visiting Professor, May-July 2002
- University of Maryland, College Park, USA, Visiting Professor, May-June 2001
- Oregon Graduate Institute, Portland, USA, Visiting Professor, May-July 1999
- Oregon Graduate Institute, Portland, USA, Visiting Professor, May-July 1998
- Oregon Graduate Institute, Portland, USA, Visiting Professor, May-July 1997
- Oregon Graduate Institute, Portland, USA, Visiting Professor, May-July 1996
- Eindhoven Tech. Univ., The Netherlands, Visiting Professor, July 1994 - Jan. 1995
- Rutgers University, USA, Visiting Professor, June 1994
- LIMSI, University of Paris, Orsay, France, Visiting Professor, May 1994
- Eindhoven Tech. Univ., The Netherlands, Visiting Professor, May-June 1992
- US West, Boulder, CO, USA, Visiting Scientist, May-June 1991
- University of Bremen, Germany, Visiting Scientist, May 1990
- Center for Speech Technology Research, Edinburgh, UK, Visiting Professor, Sept. 1989
- University of Florida, Gainesville, USA, Visiting Professor, May-July 1984
- University of Florida, Gainesville, USA, Visiting Professor, May-July 1983
- CS Dept., Carnegie-Mellon Univ., Pittsburgh, USA, Visiting Associate Professor, 1977-80

Visits Abroad

1. Sep. 2008, Brisbane, Australia, Interspeech-08
2. Aug. 2007, Antwerp, Belgium, Interspeech-07
3. Aug. 2007, IDIAP, Switzerland
4. Oct. 2006, Florence, Italy, EU Project
5. Sep. 2006, Pittsburgh, Pennsylvania, USA, Interspeech-06 - ICSLP
6. Sep. 2006, Istanbul, Turkey, MRCS-06
7. May. 2006, Toulouse, France, EU Project, MMUA-06 and ICASSP-06

8. Sep. 2005, Lisbon, Portugal, Interspeech-05
9. April 2005, Barcelona, Spain, NOLISP-05
10. March 2005, Magdeburg, Germany, EU Cultural Dimensions in Digital Multimedia Security Technology Workshop
11. Oct. 2004, Jeju, Korea, Interspeech-04
12. July 2004, Washington, USA, CVPR-04
13. June 2004, Toledo, Sapin, ODYSSEY-04
14. June 2004, Toledo, Sapin, NIST-04
15. May 2004, Montreal, Canada, ICASSP-04
16. Feb. 2004, Magdeberg, Germany, EU Project
17. Sep. 2003, Geneva, Switzerland, Eurospeech-03
18. July 2003, Portland, USA, IJCNN-03
19. July 2003, Baltimore, USA, NIST-03
20. July 2003, Baltimore, USA, ICME-03
21. May 2002, Honolulu, USA, WCCI-02
22. June 2001, Baltimore, USA, NSIP-01
23. May 2001, Salt Lake City, USA, ICASSP-01
24. May 2000, Istanbul, Turkey, ICASSP-00
25. May 2000, Boston, USA, ICNNS-00
26. May 1998, Seattle, USA, ICASSP-98
27. May 1998, Anchorage, USA, WCCI-98
28. Sep. 1997, Rhodes, Greece, Eurospeech-97
29. Sep. 1997, Noordwijkerhout, The Netherlands, WMSP-97
30. July 1997, Houston, USA, IJCNN-97
31. July 1996, Washington DC, USA, IJCNN-96
32. May 1995, Detroit, USA, ICASSP-95
33. Apr. 1992, Sheffield, UK, ESCA Workshop-92
34. May 1991, Toronto, Canada, ICASSP-91
35. Nov. 1990, Kobe, Japan, ICSLP-90
36. Apr. 1990, New York, USA, Spechtech-90

37. May 1989, Glasgow, UK, ICASSP-89
38. Nov. 1988, Singapore, ICCS-88
39. Sep. 1987, Edinburgh, UK, Eurospeech-87
40. Sep. 1986, The Hague, The Netherlands, Eusipco-86
41. Apr. 1986, Tokyo, Japan, ICASSP-86
42. Apr. 1983, Boston, USA, ICASSP-83
43. Apr. 1979, Tulsa, USA, ICASSP-79
44. Apr. 1977, Washington DC, USA, ICASSP-77

Awards/Honours Received:

1. INAE Professor S. N. Mitra Memorial Award, 2006
2. Fellow of Indian Academy of Sciences, 2004
3. Fellow of Indian National Science Academy, 1999
4. 3rd IETE Professor S. V. C. Aiyar Memorial Award, 1996
5. Fellow of Indian National Academy of Engineering, 1995

Professional Society Involved: (office bearer, member, referee, etc.)

1. Fellow of IETE (India)
2. Fellow of Acoustical Society of India
3. Member of Computer Society of India
4. Senior Member of IEEE (USA)
5. Member of European Assoc. for Signal Processing (Switzerland)
6. Member of International Neural Network Society (USA)
7. Associate Editor, IEEE Transactions on Speech & Audio Processing

Teaching Interests

- Speech Technologies
- Soft Computing
- Computing with ANN
- Digital Signal Processing
- Signals and Systems
- Principles of Communication

Research Interests:

- Digital Signal Processing
- Speech
- Computer Vision
- Artificial Neural Networks

Students Currently Enrolled for PhD and MS:

PhD (at IIIT Hyderabad, Hyderabad)

1. Hussien Seid Worku (Acoustic Phonetic Analysis of Speech Sounds)
2. M. Anand Joseph Xavier (Speech Analysis)

PhD (at IIT Madras, Chennai)

1. Anil Kumar Sao (Face Recognition) (jointly with Dr. C. Chandra Sekhar)
2. S. Guruprasad (Speech Processing) (jointly with Dr. C. Chandra Sekhar)
3. N. Dhananjaya (Speech Segmentation) (jointly with Dr. C. Chandra Sekhar)
4. K. Sri Rama Murty (Speech Analysis) (jointly with Dr. C. Chandra Sekhar)

MS (Dual degree) (at IIIT Hyderabad, Hyderabad)

1. K.Sudheer Kumar (Text-to-Speech Synthesis Systems)
2. Harish Reddy M (Text-to-Speech Synthesis Systems)
3. B. Avinash (Speaker Recognition)
4. G. Bapineedu Chowdary (Speaker Recognition)

None

Research/Projects Guided:

PhD Theses

1. A. Shahina, *Processing throat microphone speech*, IIT Madras, 2008
2. R. Kumara Swamy, *Processing multispeaker speech: A signal processing approach*, IIT Madras, 2007
3. C. Krishna Mohan, *Features for video shot boundary detection and classification*, IIT Madras, 2007
4. Leena Mary, *Multilevel Implicit Features for Language and Speaker Recognition*, IIT Madras, 2006
5. A. Nayeemulla Khan, *Large Span Constraint Models for Speech Systems*, IIT Madras, 2006
6. K. Sreenivasa Rao, *Acquisition and Incorporation of Prosody Knowledge for Speech Systems in Indian Languages*, IIT Madras, 2005
7. Palanivel S, *Person Authentication using Speech, Face and Visual Speech*, IIT Madras, 2005
8. Suryakanth V. Gangashetty, *Neural Network Models for Recognition of Consonant-Vowel Units of Speech in Multiple Languages*, IIT Madras, 2005
9. S.R. Mahadeva Prasanna, *Event-based Analysis of Speech*, IIT Madras, 2004
10. D. Devaraj, *Computational Intelligent Techniques in Power System Security Analysis*, IIT Madras, 2001
11. P. Satyanarayana, *Short Segment Analysis of Speech for Enhancement*, IIT Madras, 1999
12. Manish Sarkar, *Uncertainty-based Pattern Classification by Modular Neural Networks*, IIT Madras, 1998
13. C. Chandra Sekhar, *Neural Network Models for Recognition of Stop Consonant-Vowel (SCV) Segments in Continuous Speech*, IIT Madras, 1996
14. P. P. Raghu, *Artificial Neural Network Models for Texture Analysis*, IIT Madras, 1995
15. G. V. Ramana Rao, *Word Boundary Hypothesization in Hindi Speech*, IIT Madras, 1995
16. R. Ramaseshan, *Image Reconstruction from Multiple Frames of Sparse Data*, IIT Madras, 1994
17. R. Sundar, *Signal Processing for Recognition of Isolated Utterances of Speech Units*, IIT Madras, 1994

18. A. S. Madhukumar, *Intonation Knowledge for Speech Systems for an Indian Language*, IIT Madras, 1993
19. Hema A. Murthy, *Algorithms for Processing Fourier Transform Phase of Signals*, IIT Madras, 1992
20. P. Eswar, *A Rule-based Approach for Spotting Characters from Continuous Speech in Indian Languages*, IIT Madras, 1991
21. K. V. Madhumurthy, *Some Issues in Processing Short Segments of Speech Signals*, IIT Madras, 1991
22. J. C. P. Mariadossou, *Solutions to Some Ill-posed Problems in Sensor Array Imaging*, IIT Madras, 1990
23. S. Raman, *Speech Recognition of Hindi Stop Consonants*, IIT Madras, 1985
24. T. V. Ananthapadmanabha, *Epoch Extraction and its Application to Voiced Speech Analysis*, IISc, Bangalore, 1977

MS Theses

1. Anand Joseph Xavier M, *Extracting formant frequencies from short segments of speech*, IIT Madras, 2008
2. Suresh Vakkalanka, *Multimedia Content Analysis for Video Classification and Indexing*, IIT Madras, 2005
3. Chaitanya Mannemala, *Single Channel Speech enhancement*, IIT Madras, 2005
4. S. Guruprasad, *Exploring Features and Scoring Methods for Speaker Recognition*, IIT Madras, 2004
5. Dhananjaya N, *Speaker Segmentation using Excitation Source Features*, IIT Madras, 2004
6. Anvita Bajpai, *Exploring features for audio classification*, IIT Madras, 2004
7. Anil Kumar Sao, *Significance of Image Representation for Face Recognition*, IIT Madras, 2004
8. B. S. Venkatesh, *Face Detection in Still Grey Images Using Neural Networks*, IIT Madras, 2004
9. P. Vinod, *Text-dependent Audio-Visual Biometric Person Authentication*, IIT Madras, 2004
10. Cheedella S. Gupta, *Significance of Source Features for Speaker Recognition*, IIT Madras, 2003
11. K. Kiran Kumar, *Duration and Intonation Knowledge for Text-to-Speech Conversion System for Telugu and Hindi*, IIT Madras, 2002
12. Jinu Mariam Zachariah, *Text-Dependent Speaker Verification Using Segmental, Suprasegmental and Source Features*, IIT Madras, 2002

13. K. Sharat Reddy, *Source and System Features for Speaker Recognition*, IIT Madras, 2001
14. S. Ramesh, *Edginess Image for Face Recognition*, IIT Madras, 2001
15. S. P. Kishore, *Speaker Verification using Auto-Associative Neural Network Models*, IIT Madras, 2000
16. P. Kiran Kumar, *Texture Edge Extraction using One Dimensional Processing*, IIT Madras, 2000
17. A. V. N. S. Anjani, *Analysis of Auto-Associative Neural Network Models for Processing Degraded Speech*, IIT Madras, 2000
18. M. Mathew, *Combining Evidence from Different Classifiers for Text-Dependent Speaker Verification*, IIT Madras, 1999
19. M. Shajith Iqbal, *Auto-Associative Neural Network Models for Speaker Verification*, IIT Madras, 1999
20. Hemant Misra, *Development of Mapping Feature for Speaker Recognition*, IIT Madras, IIT Madras, 1999
21. Anitha Mary Jacob, *Feedforward Neural Network Models for Processing Degraded Speech*, IIT Madras, 1998
22. G. Pavan Kumar, *Edge Detection in Textured Images*, IIT Madras, 1998
23. N. Sudha, *Principal Component Neural Networks for Applications in Signal Processing*, IIT Madras, 1996
24. Neeharika Adabala, *Generalization Capability of Feedforward Neural Networks for Pattern Recognition Tasks*, IIT Madras, 1996
25. M. Narendranath, *Transformation of Vocal Tract Characteristics for Voice Conversion using Artificial Neural Networks*, IIT Madras, 1995
26. A. Ravichandran, *Object Recognition from Degraded Images Using Neural Networks*, IIT Madras, 1993
27. A. Arulvalan, *Neural Network Architectures for Preattentive Visual Processing*, IIT Madras, 1993
28. V. R. Ramachandran, *Coarticulation Knowledge for a Text-to-Speech System for an Indian Language*, IIT Madras, 1993
29. S. R. Rajeshkumar, *Significance of Durational Knowledge for a Text-to-Speech System in an Indian Language*, IIT Madras, 1990
30. Pramod Saini, *Algorithm for Image Reconstruction from Quantized Phase*, IIT Madras, 1989
31. Shriram Revankar, *Computer Drafting of Hand-drawn Line Sketches*, IIT Madras, 1987
32. S. Tanveer Fathima, *Studies on a Class of Information Recovery Problems*, IIT Madras, 1987

M Tech Projects

1. T. Balavamsi, *A study of Forex Time Series*, IIT Madras, 2004
2. S. Imran Basha, *Online Text-dependent Audio-visual Biometric Person Authentication*, IIT Madras, 2004
3. T. China Babu, *Online Face Authentication using Eigen Analysis*, IIT Madras, 2004
4. M. Narendra Kumar, *Video Classification*, IIT Madras, 2004
5. V. Shivanaga Prasad, *Video Content Analysis*, IIT Madras, 2003
6. I. Krishna, *Real-time Localization of Speaker Using Audio-Visual Data*, IIT Madras, 2003
7. Chirag Shah, *Text Documents Categorization Using SOM for Information Retrieval*, IIT Madras, 2002
8. K. Suchendar, *Online Face Recognition System*, IIT Madras, 2002
9. S. V. Meera, *A Text-to-Speech System for Tamil*, IIT Madras, 2001
10. S.R. Singh, *textitSoft Computing Approaches to Pattern Classification*, IIT Madras, 2000
11. V. Pragathi, *Development of Text-to-Speech system for Indian languages*, IIT Madras, 1999
12. V. Kondala Rao, *Speaker Clustering Using SOM*, IIT Madras, 1999
13. T. V. S. N. L. N. Murthy, *Fuzzy System Models for Plant Health Monitoring*, IIT Madras, 1999
14. B. Kiran Kumar, *Development of Voice Mail System with Speaker Verification*, IIT Madras, 1999
15. P. K. Unnikrishnan, *Comparitive Study of Features for a Text-dependent Speaker Verification System*, IIT Madras, 1998
16. P. Sasikumar, *Development of Constraint Satisfaction Model for a Text -independent Speaker Verification Sytem*, IIT Madras, 1998
17. M. Manickavasagam, *Development of Constraint Satisfaction Model for a Text -dependent Speaker Verification Sytem*, IIT Madras, 1998
18. Vinay Kumar Mittal, *Organisation of Image Database for Browsing and Retrieval*, IIT Madras, 1998
19. A. P. Kannan, *Similarity Based Methods for Organising Image Database*, IIT Madras, 1998
20. R. V. V.S. Dora Babu, *Robust Features for a Text-Independent Speaker Verification System*, IIT Madras, 1998
21. M. Rangarao Choudary, *Studies on Neural Network Appraoches for Text-Independent Speaker Verification*, IIT Madras, 1997

22. Kedar P. Mhaswade, *A Neural Network Approach for Information Retrieval from Spelled Names*, IIT Madras, 1997
23. Madala Raveendra Babu, *Development of an Interactive Text to Speech System for Hindi*, IIT Madras, 1997
24. N. Jagannatha Reddy, *Object Location by Image Matching*, IIT Madras, 1997
25. K. Seetha, *Synthesis Models for Text to Speech System for Hindi*, IIT Madras, 1997
26. N. V. Shaji, *Knowledge Sources in Text to Speech System for Hindi*, IIT Madras, 1997
27. M. Rajasekhar, *Development of ANN Models for Recognition of Noisy/Encrypted Speech*, IIT Madras, 1997
28. M. Krishnarajuna Rao, *English Alphabet Recognizer for an Information Retrieval System Based on Spoken Spelled Names*, IIT Madras, 1996
29. P. Narasimhamoorthy, *Raster Snap Function for Vectorization of Image Maps*, IIT Madras, 1996
30. A. Seshagiri, *Object Location in Remote Sensing Images*, IIT Madras, 1995
31. V. Hariprasad, *Isolated Word Recognizer for Project INQUEST*, IIT Madras, 1995
32. Aniruddha Chiplunkar, *Contribution of Visual clues in Speaker Verification*, IIT Madras, 1995
33. Babu Thomas, *Stereo-Correspondence Using Gabor Logons and Neural Networks*, IIT Madras, 1995
34. R. Narasimhan, *Evaluation of Time-Frequency Representations for Speech Recognition*, IIT Madras, 1994
35. K. Sumesan, *Spatio Temporal Neural Network for Speech Recognition*, IIT Madras, 1994
36. P. Satyanarayana Murthy, *Analysis of Short Segments in Speech*, IIT Madras, 1994
37. K. Ramesh Babu, *Adaptive Resonance Theory Neural Network for Speech Recognition*, IIT Madras, 1994
38. Shrikant P. Wagh, *Intonation Knowledge for Speaker Recognition Using Neural Network*, IIT Madras, 1994
39. S. R. Prakash, *Speech Recognition Using Fuzzy Neural Networks*, IIT Madras, 1993
40. Manish Sinha, *Compensation of Additive and Convolved Noise for Speech Recognition Systems*, IIT Madras, 1992
41. N. Harikrishnan, *Isolated Letter Speech Recognition Systems Using an Artificial Neural Network*, IIT Madras, 1992
42. P. I. Ganesh, *Application of HMM to Isolated Word Speech Recognition*, IIT Madras, 1992
43. Sourav Bhattacharya, *A Knowledge-based Hand-printed Character Recognizer*, IIT Madras, 1987

44. Amitava Datta, *Two Pass Parser for Syntactic and Semantic Analysis of Hindi*, IIT Madras, 1987
45. Sanjay K. Singh, *Feature Spotting Approach for Speech Signal-to-Symbol Transformation for Continuous Speech Recognition*, IIT Madras, 1987
46. Sitaram Birda, *An Expert System Approach to Character Spotting in Continuous Speech in Hindi*, IIT Madras, 1987
47. G. Mohanakrishnan, *Prosodic Ques in Speech Recognition*, IIT Madras, 1987
48. A. Amarendra Babu, *Iterative Reconstruction Algorithms for Low Bit Rate Speech Coders*, IIT Madras, 1987
49. K. Sudarshan, *Hierarchical File Organisation for Lexical Retrieval on a Speech Recognition System*, IIT Madras, 1987
50. M. Prakash and G. V. Ramana Rao, *Development of a Natural input (Handprinted Pascal Text) System*, IIT Madras, 1985
51. Rao Gururaj Raghavendra, *A Proposal for Automatic Editing of Extempore Speech*, IIT Madras, 1985
52. S. David Peter and K. R. Krishnamoorthy, *Interactive Software Package for Digital Signal Processing*, IIT Madras, 1985
53. R. S. L. V. Ramana Rao, *Dialogue for Man-Machine Voice Communication for Large Vocabulary Tasks*, IIT Madras, 1984
54. K. V. Srinivasa Satagopan, *Motion Detection and Characterisation in Picture Frames*, IIT Madras, 1984
55. M. Mohana Rao, *Studies on Reduction in Complexity of Isolated Word Speech Recognition System*, IIT Madras, 1984
56. M. Mahesh Kumar, *Designing Man-Machine Dialogue for a Voice Input/Output Terminal*, IIT Madras, 1984
57. C. P. Mariadassou, *Character Recognition using Apriori Information*, IIT Madras, 1984
58. P. Siva Subramania Raja, *Speech Synthesis by Rule*, IIT Madras, 1984
59. G. N. Amaranath, *Computer Simulation Studies on Acoustic Imaging*, IIT Madras, 1983
60. Dilip Kumar Saikia, *Recognition of Signals from Partial Information of Phase or Magnitude of the Fourier Transform*, IIT Madras, 1983
61. K. Suresh Kumar, *Connected word Speech Recognition System*, IIT Madras, 1982
62. S. Nagendra Prasad, *Studies on Speech Recognition for Implementation on a Microcomputer System*, IIT Madras, 1982
63. A. Dhayalan, *Studies on the Design of Digital Filters by Autoregressive Modelling*, IIT Madras, 1982

64. T. Sree Kumar, *Signal-Dependent Matching Algorithms for Isolated Word Speech Recognition Systems*, IIT Madras, 1982
65. S. Hari Rao, *MIITSG System: A Research-Oriented Speech Recognition System*, IIT Madras, 1982

Projects Undertaken:

Sponsored:

1. Indo-Swiss Project on “*Keyword spotting in continuous speech*”. (Jointly with IIT Guwahati and IDIAP, Martigny, Switzerland). (Total budget for IIIT-Hyderabad for 2 years: About Rs. 4 lakhs.)
2. UKIERI Standard awards (Indo-UK project) on “*Study of source features for speech synthesis and speaker recognition*”. (Jointly with IIT Guwahati and CSTR, Edinburgh). (Total budget for IIIT-H for 4 years: UK Pounds: 53,233.)
3. DPEIL (DIT), New Delhi, India: (INR 35,00,000), 2007-2009, *Development of Phonetic Engine for Indian Languages*, Grant # LTRC/TDIL/DIT, Status: Ongoing.
4. ERSTM (DRDO), New Delhi, India: (INR 14,97,000), 2007-2009 , *Efficient Representation of Speech from Throat Microphone for Transmission and Storage of Speech Information*, Grant # LTRC/CAIR/DRDO, Status: Ongoing.
5. FULBC (DRDO), New Delhi, India: (INR 14,98,000), 2007-2009 , *Feasibility of Ultra Low Bit Rate Coding for Transmission/Storage of Speech*, Grant # LTRC/CAIR/DRDO, Status: Ongoing.
6. CAIR (DRDO), Bangalore, India: (INR 1,30,00,000), 2002-2007, *Communication and Information Technology Research Program*, Grant # CSE/01-02/044/DRDO/HoD, Status: Ongoing.
7. ONR, USA: (INR 16,00,000), 1997-2005, *Information Recovery from Partial Data for Image Processing Applications*, Grant # CSE/97-98/032/FCP(INDO-US)/BYEG, Status: Completed.
8. ISRO, India: (INR 7,50,000), 1997-2003, *Development of Techniques for Classification of Urban Features from Remote Sensed Data for use in GIS Applications: A Multidisciplinary Approach*, Grant # CSE/97-98/031/ISRO/BYEG, Status: Completed.
9. IIT-FRG(KFA): 1995-1996, *Indo-German Project on Keyword Spotting in Continuous Speech*, Status: Completed.
10. Department of Research and Development, Government of India : (INR 9,95,000), 1995-99, *Artificial Neural Network Models for Processing Encrypted Speech*, Grant # CSE/95-96/028/DRDO(SAG)/BYEG, Status: Completed.
11. Department of Electronics, Government of India: (INR 19,63,000), 1991-1995, *Development of Neural Network Models for Classification of Sonar Targets*, Grant # CSE/19/DOE/91-92/BY, Status: Completed.

12. Department of Science and Technology, Government of India: (INR 10,00,000), 1992-1995, *Voice Conversion*, Grant # CSE/91-92/020/DST/BY&HAM, Status: Completed.
13. Ministry of Human Resources and Development : (INR 25,00,000), 1990-1992, *Computing with Artificial Neural Networks*, Grant # NP/ICSR/CSE(CAN)/90-91/BY, Status: Completed.
14. Department of Electronics, Government of India: (INR 29,83,000), 1986-1992, *Interactive Voice Input/ Output System for a Computer*, Grant # CSE/08/EC/85-86/BY, Status: Completed.
15. Indian Space Research Organisation: (INR 5,00,000), 1991-1994, *Application of Artificial Neural Networks in Remote Sensing*, Grant # CSE/13/ISRO-IIT(M)/91-92/BY, Status: Completed.
16. Department of Electronics, Government of India: (INR 9,00,000), 1988-1991, *Algorithms for Signal Reconstruction in Acoustic Imaging*, Grant # CSE/14/DOE/88-89/BY, Status: Completed.
17. Department of Electronics, Government of India: (INR 4,00,000), 1988-1991, *Speech Oriented Learning Systems for Handicapped: An Aid for Communication with Hearing-Impaired Persons*, Grant # CSE/13/DOE/88-89/BY, Status: Completed.
18. Department of Electronics, Government of India: (INR 10,00,000), 1983-1988, *Signal Processing in Acoustic Imaging*, Status: Completed.

Consultancy:

1. NSTL (DRDO), Visakhapatnam, India: (INR 5,00,000), 2004-2005, *Design and development of signal analyser algorithms*, Grant # RB/04-05/CSE/005/NSTL/BYEG, Status: Completed.
2. DLRL (DRDO), Hyderabad, India: (INR 9,80,000), 2004-05, *Word Spotting*, Grant # RB/04-05/CSE/004/DLRL/BYEG, Status: Completed.
3. NSTL (DRDO), Visakhapatnam, India: (INR 12,00,000), 2004-2006, *High Performance Detection System*, Grant # RB/03-04/CSE/002/NSTL/BYEG, Status: Completed.
4. DLRL (DRDO), Hyderabad, India: (INR 9,50,000), 2002-2004, *Speaker Verification*, Grant # RB/01-02/CSE/002/DRDL/BYEG, Status: Completed.
5. DLRL (DRDO), Hyderabad, India: (INR 9,50,000), 2002-2004, *Speech Enhancement*, Grant # RB/01-02/CSE/003/DRDL/BYEG, Status: Completed.
6. Intel Asia: 1999-2004, *Development of Phonetic Engine for Speech in Indian Languages*, Grant # RB/99-00/CSE/003/IAE/BYEG, Status: Completed.
7. OGI, USA: (Approximately INR 20,00,000), 1998-2005, *Speaker Recognition*, Grant # RB/97-98/CSE/001/OGI/BYEG, Status: Completed.
8. RCI, India: (INR 8,00,000), 1999-2001, *Speaker Recognition for Access Control*, Grant # RB/98-99/CSE/001/RCI/BYEG, Status: Completed.

9. GRIPPS, Germany: (INR 2,00,000), 1995-1996, *Image Processing Algorithms for GIS*, Status: *Completed*.
10. AUM Inc., USA: (INR 4,00,000), *Speech Technologies*, Status: *Completed*.

Continuing Education Programs/Conferences Organized:

1. Short-term course on Speech Processing at NIT Warangal, on March 25, 2008.
2. CEP course on signal processing, at DLRL, Hyderabad on February 11, 2008.
3. RSPS-2008 at KLCE, Guntur Dt., Andhra Pradesh, on February 2, 2008.
4. Talk on Speech processing at Short-term course on DSP Processor & Applications, at IETE building, Hyderabad, on July 26, 2007.
5. Talk on Basics of Digital Signal Processing at the CEP course at RCI (DRDO), Hyderabad on November 20, 2006.
6. Lectures on Signal Processing at CEP course at NSTL, Visakhapatnam, October 9-10, 2006.
7. Tutorial on Nonspectral Features in Speech Processing, INTERSPEECH 2006, PITTSBURGH, USA, September 2006.
8. INAE Workshop on Image and Speech Processing, (WISP-2006), IIT Madras, February 26-28, 2006.
9. Tutorial on Neural Network Models for Speech and Image Processing, WCCI, Hawaii, May 12, 2002.
10. Tutorial on Neural Network Models for Speech and Image Processing, International Conference on High Performance Computing, Hyderabad, India, December 18-20, 2001.
11. International Conference on Multimedia Processing and Systems, IIT Madras, August 13-15, 2000.
12. Short-Term Course on Speech Technology, IIT Madras, 1997.
13. Short-Term Course on Artificial Neural Networks, IIT Madras, 1994.
14. Tutorial on Speech Technology, IIT Madras, December 6-8, 1992.
15. Workshop on Speech Technology, IIT Madras, December 9-11, 1992.

Publications:

Text Books, Monographs, Conference Proceedings - Authored/Edited:

1. **B. Yegnanarayana**, C. Chandra Sekhar, S. Palanivel, V. Suresh, Anil Kumar Sao and Dhananjaya N., Issues in the Development of an Audio-Video based Person Authentication System, in Jana Dittmann, Claus Viehauer and Jan Hansen (Eds.), *New Advances in Multimedia Security, Biometrics, Watermarking and Cultural Aspects*, pp. 53-76, Logos Verlag Berlin, Berlin, 2006.
2. S. V. Gangashetty, C. Chandra Sekhar, and **B. Yegnanarayana**, Spotting Multilingual Consonant-Vowel Units of Speech using Neural Network Models, in Marcos Fundez-Zanuy, ... (Eds.), *Nonlinear Analyses and Algorithms for Speech Processing (Revised Selected Papers from International Conference on Non-linear Speech Processing, NOLISP 2005, Barcelona, Spain, April 19-22) (LNAI Vol. 3817, ISBN: 3-540-31257-9)*, pp. 303-317, Springer Lecture Notes in Artificial Intelligence, 2005.
3. **B. Yegnanarayana**, Suryakanth V. Gangashetty, and S. Palanivel, Autoassociative Neural Network Models for Pattern Recognition Tasks in Speech and Image, in Ashish Ghosh and Sankar K. Pal (Eds.), *Soft Computing Approach to Pattern Recognition and Image Processing*, World Scientific Publishing Co. Pte. Ltd., Singapore, 2002.
4. **B. Yegnanarayana** and C. Chandra Sekhar, Pattern Recognition Issues in Speech Processing, in Sankar K. Pal, and Amita Pal (Eds.), *Pattern Recognition from Classical to Modern Approaches*, World Scientific Publishing Co. Pte. Ltd., Singapore, 2001.
5. **B. Yegnanarayana** and S. Ramesh, *Solution Manual to Artificial Neural Networks* by B. Yegnanarayana, New Delhi, Prentice-Hall of India, 2001.
6. **B. Yegnanarayana** and M. Narendranath, Neural Networks, Voice Conversion, in S. Katagiri (Ed.), *Handbook of Neural Networks for Speech Processing*, Artech House Inc., Massachusetts, 2000.
7. Manish Sarkar and **B. Yegnanarayana**, Application of Fuzzy-Rough Sets in Modular Neural Networks, in S. K. Pal and A. Skowron (Eds.), *Rough Fuzzy Hybridization: A New Trend in Decision Making*, Springer-Verlag Singapore Pte. Ltd., 1999.
8. **B. Yegnanarayana**, *Artificial Neural Networks*, New Delhi, Prentice-Hall of India, 1999.
9. **B. Yegnanarayana**, M. Narendranath and S. Rajendran, *Voice Conversion*, Indian Institute of Technology Madras, September 1995.
10. **B. Yegnanarayana**, N. Sudha, P.P. Raghu and C. Chandra Sekhar, *Artificial Neural Networks for Classification of Sonar Targets*, Indian Institute of Technology Madras, August 1995.
11. P. P. Raghu, R. Poongodi and **B. Yegnanarayana**, *Application of Artificial Neural Networks in Remote Sensing*, Indian Institute of Technology Madras, November 1995.
12. **B. Yegnanarayana** and V. R. Ramachandran, Group Delay Processing of Speech Signals in Martin Cooke, Steve Beet and Malcom Crawford (Eds.), *Visual Representations of Speech Signal*, John Wiley and Sons Ltd., 1993.

13. **B. Yegnanarayana** et al., Proceedings of Workshop on Speech Technology, Indian Institute of Technology Madras, December 1992.
14. **B. Yegnanarayana** et al., *Tutorial on Speech Technology*, Indian Institute of Technology Madras, December 1992.
15. **B. Yegnanarayana**, R. Ramaseshan and A. Ravichandran, *Studies in Sensor Array Imaging*, Indian Institute of Technology Madras, November 1991.
16. V. V. S. Sarma, N. Viswanadham, **B. Yegnanarayana** and B. L. Deekshatulu, *Artificial Intelligence and Expert System Technologies in the Indian Context*, vol.1 & 2, Tata McGraw-Hill, 1991.
17. **B. Yegnanarayana** and P. V. S. Rao (Eds.), *Special issue on Speech Processing*, JIETE, vol.34, no.1, Jan-Feb 1988.

Publications in Journals

Publications in International Journals

1. B. Yegnanarayana, R. Kumara Swamy and K. S. R. Murty, **Determining mixing parameters from multispeaker data using speech-specific information**, *IEEE Transactions on Audio, Speech, and Language Processing*, vol. 17, no. 6, pp. 1196-1207, Aug. 2009.
2. K. S. R. Murty, B. Yegnanarayana and M. Anand Joseph, **Characterization of glottal activity from speech signals**, *IEEE Signal Processing Letters*, vol. 16, no. 6, pp. 469-472, June 2009.
3. B. Yegnanarayana and K. S. R. Murty, **Event-based instantaneous fundamental frequency estimation from speech signals**, *IEEE Transactions on Audio, Speech, and Language Processing*, vol. 17, no. 4, pp. 614-624, May 2009.
4. K. S. R. Murty and B. Yegnanarayana, **Epoch extraction from speech signals**, *IEEE Transactions on Audio, Speech, and Language Processing*, vol. 16, no. 8, pp. 1602-1613, Nov. 2008.
5. Leena Mary and B. Yegnanarayana, **Extraction and representation of prosodic features for language and speaker recognition**, *Speech Communication*, vol. 50, no. 10, pp. 782-796, Oct. 2008.
6. C. Krishna Mohan and B. Yegnanarayana, **Classification of sport videos using edge-based features and autoassociative neural network models**, *Signal, Image and Video Processing*, Dec. 2008, doi:10.1007/s11760-008-0097-9.
7. N. P. Cuntoor, B. Yegnanarayana and R. Chellappa, **Activity modeling using event probability sequences**, *IEEE Transactions on Image Processing*, vol. 17, no. 4, pp. 594-607, April 2008.
8. N. Dhananjaya and B. Yegnanarayana, **Speaker change detection in casual conversations using excitation source features**, *Speech Communication*, vol. 50, no. 2, pp. 153-161, Feb. 2008.

9. S. Palanivel and B. Yegnanarayana, **Multimodal person authentication using speech, face and visual speech**, *Computer Vision and Image Understanding*, vol. 109, no. 1, pp. 44-55, Jan. 2008.
10. K. Sreenivasa Rao, S. R. M. Prasanna and B. Yegnanarayana, **Determination of instants of significant excitation in speech using Hilbert envelope and group delay function**, *IEEE Signal Processing Letters*, vol. 14, no. 10, Oct. 2007.
11. Anil Kumar Sao and B. Yegnanarayana, **Face verification using template matching**, *IEEE Transactions on Information Forensics and Security*, Special Issue on 'Human Detection and Recognition', vol. 2, no. 3, pp. 636-641, Sep. 2007.
12. Anil Kumar Sao, B. Yegnanarayana and B. V. K. Vijaya Kumar, **Significance of image representation for face verification**, *Signal, Image and Video Processing*, Special issue on 'Multi-sensor object detection and tracking', vol. 1, no. 3, pp. 225-237, Aug. 2007.
13. A. Shahina, and B. Yegnanarayana, **Mapping Speech Spectra from Throat Microphone to Close-Speaking Microphone: A Neural Network Approach**, *EURASIP Journal on Advances in Signal Processing*, vol. 2007, Article ID 87219, 10 pages, 2007. doi:10.1155/2007/87219.
14. R. Kumara Swamy, K. Sri Rama Murty and B. Yegnanarayana, **Determining number of speakers from multispeaker speech signals using excitation source information**, *IEEE Signal Processing Letters*, vol. 14, no. 7, pp. 481-484, July 2007.
15. K. Sreenivasa Rao and B. Yegnanarayana, **Modeling durations of syllables using neural networks**, *Computer Speech and Language*, vol. 21, no. 2, pp. 282-295, April 2007.
16. S. R. Mahadeva Prasanna, Cheedella S. Gupta and B. Yegnanarayana, **Extraction of speaker-specific excitation information from linear prediction residual of speech**, *Speech Communication*, vol. 48, no. 10, pp. 1243-1261, October 2006.
17. K. Sreenivasa Rao and B. Yegnanarayana, **Prosody modification using instants of significant excitation**, *IEEE Transactions on Speech and Audio Processing*, vol.14, no.3, pp. 972-980, May 2006.
18. K. Sri Rama Murty and B. Yegnanarayana, **Combining Evidence from Residual Phase and MFCC Features for Speaker Recognition**, *IEEE Signal Processing Letters*, vol.13, no.1, pp. 52-56, January 2006.
19. B. Yegnanarayana, S. R. M. Prasanna, R. Duraiswamy and D. Zotkin, **Processing reverberant speech for time-delay estimation**, *IEEE Transactions on Speech and Audio Processing*, vol.13, no.6, November 2005.
20. Vikas C. Raykar, B. Yegnanarayana, S.R.M. Prasanna and R. Duraiswami, **Speaker localization using excitation source information**, *IEEE Transactions on Speech Audio Processing*, vol.13, no.5-II, pp. 751-761, September 2005.
21. B. Yegnanarayana, S. R. M. Prasanna, J. M. Zachariah and C. S. Gupta, **Combining evidence from source, suprasegmental and spectral features for fixed-text speaker verification**, *IEEE Transactions on Speech and Audio Processing*, vol.13, no.4, pp. 575-582, July 2005.

22. Vikas C. Rayakar, Ramani Duraiswami and B. Yegnanarayana, **Extracting the frequencies of the pinna spectral notches in measured head-related impulse response**, *Journal of Acoustical Society of America*, vol.118, no.1, pp. 364-374, July 2005.
23. V. Shiv Naga Prasad and B. Yegnanarayana, **Finding axes of symmetry from potential fields**, in *IEEE Transactions on Image Processing*, vol. 13, no. 12, pp. 1559-1566, December 2004.
24. Hemant Misra, Shajith Iqbal and B. Yegnanarayana, **Speaker-specific mapping for text-independent speaker recognition**, *Speech Communication*, vol.39, no.3-4, pp. 301-310, February 2003.
25. C. Chandra Sekhar and B. Yegnanarayana, **A constraint satisfaction model for recognition of stop consonant vowel (SCV) utterances**, *IEEE Transactions on Speech and Audio Processing*, vol.10, no.7, pp. 472-480, October 2002.
26. D. Devaraj, B. Yegnanarayana and K. Ramar, **Radial basis function networks for fast contingency ranking**, *Electric Power and Energy Systems Journal*, vol. 24, no.5, pp. 387-393, June 2002.
27. B. Yegnanarayana and S. P. Kishore, **AANN: an alternative to GMM for pattern recognition**, *Neural Networks*, vol.15, no.3, pp. 459-469, April 2002.
28. B. Yegnanarayana and P. Satyanarayana Murthy, **Enhancement of reverberant speech using LP residual**, *IEEE Transactions on Speech and Audio Processing*, vol.8, no.3, pp. 267-281, May 2000.
29. N. Malayath, H. Hermansky, S. Kajarekar and B. Yegnanarayana, **Data-Driven Temporal Filters and Alternatives to GMM in Speaker Verification**, in *Digital Signal Processing*, vol. 10, pp. 55-74, Jan-Jul. 2000.
30. P. Satyanarayana Murthy and B. Yegnanarayana, **Robustness of group-delay-based method for extraction of significant instants of excitation from speech signals**, *IEEE Transactions on Speech and Audio Processing*, vol.7, no.6, pp. 609-619, November 1999.
31. B. Yegnanarayana, C. Avendano, H. Hermansky and P. Satyanarayana Murthy, **Speech enhancement using linear prediction residual**, *Speech Communication*, vol.28, no.1, pp. 25-42, May 1999.
32. B. Yegnanarayana and R. N. J. Veldhuis, **Extraction of vocal-tract system characteristics from speech signals**, *IEEE Transactions on Speech and Audio Processing*. Vol.6, no.4, pp. 313-327, July 1998.
33. P. P. Raghu and B. Yegnanarayana, **Supervised texture classification using a probabilistic neural network and constraint satisfaction model**, *IEEE Transactions on Neural Networks*, vol.9, no.3, pp. 516-522, May 1998.
34. C. d'Alessandro, V. Darsinos and B. Yegnanarayana, **Effectiveness of a periodic and aperiodic decomposition method for analysis of voice sources**, *IEEE Transactions on Speech and Audio Processing*, vol.6, no.1, pp. 12-23, January 1998.

35. B. Yegnanarayana, C. d'Alessandro and V. Darsinos, **An iterative algorithm for decomposition of speech signals into periodic and aperiodic components**, *IEEE Transactions on Speech and Audio Processing*, vol.6, no.1, pp. 1-11, January 1998.
36. M. Sarkar, B. Yegnanarayana and D. Khemani, **Backpropagation learning algorithms for classification with fuzzy mean square error**, *Pattern Recognition Letters*, vol.19, no.1, pp. 43-51, October 1997.
37. M. Sarkar, B. Yegnanarayana and D. Khemani, **A clustering algorithm using an evolutionary programming-based approach**, *Pattern Recognition Letters*, vol.18, no.10, pp. 975-986, August 1997.
38. P. P. Raghu, R. Poongodi and B. Yegnanarayana, **Unsupervised texture classification using vector quantization and deterministic relaxation neural network**, *IEEE Trans. on Image Processing*, vol.6, no.10, pp. 1376-1387, October 1997.
39. P. P. Raghu and B. Yegnanarayana, **Multispectral image classification using Gabor filters and stochastic relaxation neural network**, *Neural Networks*, vol.10, no.3, pp. 561-572, May 1997.
40. P. P. Raghu and B. Yegnanarayana, **Segmentation of Gabor filtered textures using deterministic relaxation**, *IEEE Trans. on Image Processing*, vol.5, no.12, pp. 1625-1636, December 1996.
41. B. Yegnanarayana and P. Satyanarayana Murthy, **Source-system windowing for speech analysis and synthesis**, *IEEE Trans. on Speech and Audio Processing*, vol.4, no.2, pp. 133-137, March 1996.
42. S. Rajendran and B. Yegnanarayana, **Word boundary hypothesization for continuous speech in Hindi based on F0 patterns**, *Speech Communication*, vol.18, no.1, pp. 21-46, January 1996.
43. R. L. H. M. Smits and B. Yegnanarayana, **Determination of instants of significant excitation in speech using group delay function**, *IEEE Trans. on Speech and Audio Processing*, vol.3, no.5, pp. 325-333, September 1995.
44. M. Narendranath, H. A. Murthy, S. Rajendran, and B. Yegnanarayana, **Transformation of formants for voice conversion using artificial neural networks**, *Speech Communication*, vol.16, no.2, pp. 206-216, February 1995.
45. A. Ravichandran and B. Yegnanarayana, **Studies on object recognition from degraded images using neural networks**, *Neural Networks*, vol.8, no.3, pp. 481-488, May 1995.
46. P. P. Raghu, R. Poongodi, and B. Yegnanarayana, **A combined neural network applications for texture classification**, *Neural Networks*, vol.8, no.6, pp. 975-987, November 1995.
47. A. S. Madhukumar, S. Rajendran, and B. Yegnanarayana, **Intonation component of text-to-speech system for Hindi**, *Computer Speech and Language*, vol.7, no.3, pp. 283-301, July, 1993.

48. R. Ramaseshan and B. Yegnanarayana, **Image reconstruction from multiple frames of sparse data**, *Multidimensional Systems and Signal Processing*, vol.4, no.2, pp. 167-179, 1993.
49. B. Yegnanarayana and Hema A. Murthy, **Significance of group delay functions in spectrum estimation**, *IEEE Trans. on Signal Processing*, vol.40, no.9, pp. 2281-2289, September 1992.
50. P. Eswar, C. Chandra Sekhar, and B. Yegnanarayana, **Use of fuzzy mathematical concepts in character spotting for automatic recognition of continuous speech in Hindi**, *Journal on Fuzzy Sets and Systems*, vol.46, no.1, pp. 1-9, February 1992.
51. G. V. Ramana Rao and B. Yegnanarayana, **Word boundary hypothesization in Hindi speech**, *Computer Speech and Language*, vol.5, no.4, pp. 379-392, December 1991.
52. B. Yegnanarayana and R. Sundar, **Signal processing issues in realizing voice input to computers**, *Asia-Pacific Engineering Journal*, (Part A), vol.1, no.2, pp. 197-217, December 1991.
53. Hema A. Murthy and B. Yegnanarayana, **Formant extraction from group delay function**, *Speech Communication*, vol.10, no.3, pp. 209-221, August 1991.
54. Hema A. Murthy and B. Yegnanarayana, **Speech processing using group delay functions**, *Signal Processing*, vol.22, no.3, pp. 259-267, March 1991.
55. C. P. Mariadassou and B. Yegnanarayana, **Image reconstruction from noisy digital holograms**, *IEE Proc.*, Part F, vol.137, no.5, pp. 351-356, October 1990.
56. S. T. Fathima and B. Yegnanarayana, **A maximum entropy approach to interpolation**, *Signal Processing*, vol.21, no.1, pp. 17-24, September 1990.
57. B. Yegnanarayana, C. P. Mariadassou, and Pramod Saini, **Signal reconstruction from partial data for sensor array imaging applications**, *Signal Processing*, vol.19, no.2, pp. 139-149, February 1990.
58. Hema A. Murthy, K.V.Madhu Murthy, and B. Yegnanarayana, **Formant extraction from phase using weighted group delay function**, *Electronics Letters*, vol.25, no.23, pp. 1609-1611, November 1989.
59. D. G. Childers, Ke Wu, D. M. Hicks, and B. Yegnanarayana, **Voice conversion**, *Speech Communication*, vol.8, no.2, pp. 147-158, June 1989.
60. K. V. Madhu Murthy and B. Yegnanarayana, **Effectiveness of representation of signals through group delay functions**, *Signal Processing*, vol.17, no.2, pp. 141-150, June 1989.
61. B. Yegnanarayana, S. T. Fathima, B. T. K. R. Nehru, and B. Venkataraman, **Significance of initial interpolation in band-limited signal interpolation**, *IEEE Trans. Acoustics, Speech and Signal Processing*, vol.37, no.1, pp. 151-152, January 1989.
62. B. Yegnanarayana and A. Raghunathan, **Representation of images through group delay functions**, *IEEE Trans. Acoustics, Speech and Signal Processing*, vol.ASSP-35, no.2, pp. 237-240, February 1987.

63. B. Yegnanarayana, J. Sreekanth, and Anand Rangarajan, **Waveform estimation using group delay processing**, *IEEE Trans. on Acoustics, Speech and Signal Processing*, vol.ASSP-33, no.4, pp. 832-836, August 1985.
64. B. Yegnanarayana, Sarat Chandra, and Anant Agarwal, **On improvement of performance of isolated word recognition for degraded speech**, *Signal Processing*, vol.7, no.2, pp. 175-183, October 1984.
65. B. Yegnanarayana and T. Sreekumar, **Signal-dependent matching for isolated word speech recognition systems**, *Signal Processing*, vol.7, no.2, pp. 161-173, October 1984.
66. B. Yegnanarayana, D. K. Saikia, and T. R. Krishnan, **Significance of group delay functions in signal reconstruction from spectral magnitude or phase**, *IEEE Trans. on Acoustics, Speech and Signal Processing*, vol.ASSP-32, no.3, pp. 610- 623, June 1984.
67. A. Waibel and B. Yegnanarayana, **Comparative study of nonlinear time warping techniques in isolated word speech recognition system**, *IEEE Trans. on Acoustics, speech and Signal Processing*, vol.ASSP-31, no.6, pp. 1582-1586, December 1983.
68. B. Yegnanarayana, **Design of recursive group delay filters by autoregressive modeling**, *IEEE Trans. Acoustics, Speech and Signal Processing*, vol.ASSP-30, no.4, pp. 632-637, August 1982.
69. B. Yegnanarayana, **Design of ARMA digital filters by pole-zero decomposition**, *IEEE Trans. Acoustics, Speech and Signal Processing*, vol.ASSP-29, no.3, pp. 433-439, June 1981.
70. B. Yegnanarayana, **Speech analysis by pole-zero decomposition of short-time spectra**, *Signal Processing*, vol.3, no.1, pp. 5-17, January 1981.
71. T. V. Ananthapadmanabha and B. Yegnanarayana, **Epoch extraction from linear prediction residual for identification of closed glottis interval**, *IEEE Trans. Acoustics speech and signal Processing*, vol.ASSP-27, no.4, pp. 309-319, August 1979.
72. B. Yegnanarayana, **Formant extraction from linear prediction phase spectra**, *Journal of the Acoustical Society of America*, vol.63, no.5, pp. 1638-1640, May 1978.
73. V. V. S. Sarma, B. Yegnanarayana, and T. V. Ananthapadmanabha, **A speaker recognition scheme on a minicomputer based on a signal processing facility**, *Acustica*, vol.41, no.2, pp. 117-121, 1978.
74. T. V. Ananthapadmanabha and B. Yegnanarayana, **Epoch extraction of voiced speech**, *IEEE Trans. on Acoustics, Speech and Signal Processing*, vol.ASSP-23, no.6, pp. 562-570, December 1975.
75. B. Yegnanarayana and B. S. Ramakrishna, **Intelligibility of speech under nonexponential decay conditions**, *Journal of the Acoustical Society of America*, vol.58, no.4, pp. 853-857, October 1975.
76. B. Yegnanarayana, **Wave analysis of sound decay in rectangular rooms**, *Journal of the Acoustical Society of America*, vol.56, no.2, pp. 534-541, August 1974.

77. B. Yegnanarayana and B. S. Ramakrishna, **Diffusion of decaying sound field in a reverberation room with a highly absorbing sample**, *Journal of Acoustical Society of America*, vol.56, no.2, pp. 706-708, August 1974.
78. B. Yegnanarayana and C. G. Balachandran, **Studies in a reverberation room with highly absorbing sample**, *Journal of the Acoustical Society of America*, vol.52, no.2 (part-1), pp. 465-470, 1972.

Publications in Indian Journals

1. C. Chandra Sekhar and B. Yegnanarayana, **Recognition of Stop-Consonant-Vowel (SCV) segments in continuous speech using neural network models**, *Journal of Institution of Electronics and Telecommunication Engineers (IETE)*, vol.42, nos.4 and 5, pp. 269-280, Jul.-Oct. 1996.
2. B. Yegnanarayana, Deepak Khemani and Manish Sarkar, **Neural networks for contract bridge bidding**, *Sadhana*, vol.21, part3, pp. 395-413, June 1996.
3. B. Yegnanarayana, **On timing in time-frequency analysis of speech signals**, *Sadhana*, vol.21, part 1, pp. 5-20, February 1996.
4. B. Yegnanarayana, **Artificial neural networks for pattern recognition**, *Sadhana*, vol.19, no.2, pp. 189-238, April 1994.
5. B. Yegnanarayana, S. Rajendran, V. R. Ramachandran and A. S. Madhukumar, **Significance of knowledge sources for a text-to- speech system for Indian languages**, *Sadhana*, vol.19, no.1, pp. 147-169, February 1994.
6. B. Yegnanarayana, K. V. Madhu Murthy, and Hema A. Murthy, **Application of group delay functions in speech processing**, *Journal of the IETE, Special issue on Speech Processing*, vol.34, no.1, pp. 20-29, Jan.-Feb.1988.
7. B. Yegnanarayana, **Voice input/output systems for Indian languages**, *Journal of Computer Science and Informatics*, vol.18, no.1, pp. 3-24, January 1988.
8. B. Yegnanarayana and S. S. Agrawal, **Status of speech research in India**, *Journal of the Acoustical Society of India*, vol.13, no.1, pp. 39-59, January 1985.
9. B. Yegnanarayana, **New methods of design of digital filters**, *Electro-Technology, Special Issue on Signal Processing*, pp. 204-217, December 1981.
10. B. Yegnanarayana, V. V. S. Sarma and D. Narayana Dutt, **Speech signal processing for man-machine communications**, *Journal of Computer Society of India*, vol.7, no.1, pp. 21-34, December 1976.
11. T. V. Ananthapadmanabha and B. Yegnanarayana, **A decomposition technique for composite signals**, *Journal of Indian Institute of Science*, vol.58, pp. 412-433, 1976.
12. T. V. Ananthapadmanabha and B. Yegnanarayana, **Epoch extraction of composite signals**, *Journal of the IETE*, vol.22, no.11, pp. 712-716, 1976.
13. V. V. S. Sarma and B. Yegnanarayana, **A critical survey of automatic speaker recognition systems**, *Journal of Computer Society of India*, vol.6, no.1, pp. 1-11, 1975.
14. B. Yegnanarayana and A. R. K. Sastry, **Computation of the capacity of a burst noise binary symmetric channel**, *Journal of the Institute of Telecommunication Engineers*, vol.19, no.6, pp. 320-322, 1973.
15. B. Yegnanarayana, **Design and construction of the anechoic chamber at the Indian Institute of Science**, *Journal of the Acoustical Society of India*, vol.1, pp. 16-22, 1973.

Publications in Conferences

Publications in International Conferences

1. Srinivas Desai, E. Veera Raghavendra, B. Yegnanarayana, Alan W. Black and S. Kishore Prahallad, **Voice conversion using artificial neural networks**, *Proc. International Conference on Acoustics, Speech, and Signal Processing, 2009*, Taipei, Taiwan, pp. 3893-3896, April 19-24, 2009.
2. A. K. Sao and B. Yegnanarayana, **Analytic phase-based representation for face recognition**, *Proc. International Conference on Advances in Pattern Recognition, 2009*, Kolkata, India, pp. 453-456, Feb. 04-06, 2009.
3. C. Krishna Mohan, N. Dhananjaya, B. Yegnanarayana, **Video shot segmentation using late fusion technique**, *Proc. Seventh International Conference on Machine Learning and Applications, 2008*, San Diego, California, USA, pp. 267-270, Dec. 11-13, 2008.
4. Anvita Bajpai and B. Yegnanarayana, **Combining evidence from subsegmental and segmental features for audio clip classification**, *Proc. IEEE Region 10 Conference (TENCON) 2008*, Hyderabad, India, pp. 1-5, Nov. 19-21, 2008.
5. B. Yegnanarayana, S. Rajendran, Hussien Seid Worku and N. Dhananjaya, **Analysis of glottal stops in speech signals**, *Proc. INTERSPEECH 2008*, Brisbane, Australia, pp. 1481-1484, Sep. 22-26, 2008.
6. N. Dhananjaya, S. Rajendran and B. Yegnanarayana, **Features for automatic detection of voice bars in continuous speech**, *Proc. INTERSPEECH 2008*, Brisbane, Australia, pp. 1321-1324, Sep. 22-26, 2008.
7. E. Veera Raghavendra, B. Yegnanarayana, Alan W. Black and S. Kishore Prahallad, **Building sleek synthesizers for multi-lingual screen reader**, *Proc. INTERSPEECH 2008*, Brisbane, Australia, pp. 1865-1868, Sep. 22-26, 2008.
8. K. Sri Rama Murty, Saurav Khurana, Yogendra Umesh Itankar and B. Yegnanarayana, **Efficient representation of throat microphone speech**, *Proc. INTERSPEECH 2008*, Brisbane, Australia, pp. 2610-2613, Sep. 22-26, 2008.
9. B. Yegnanarayana, K. Sri Rama Murty and S. Rajendran, **Analysis of stop consonants in Indian languages using excitation source information in speech signal**, *Proc. ISCA ITRW Speech Analysis and Processing for Knowledge Discovery*, Aalborg, Denmark, June 4-6, 2008.
10. Sachin Joshi, S. Kishore Prahallad and B. Yegnanarayana, **AANN-HMM models for speaker verification and speech recognition**, *Proc. International Joint Conference on Neural Networks*, Hong Kong, pp. 2681-2688, June 1-8, 2008.
11. K. Sri Rama Murty and B. Yegnanarayana, **Event-based interpretation of HMM state sequences for speech analysis**, *Proc. Conference on Managing Complexity in a Distributed World*, Bangalore, India, May 27-31, 2008.
12. J. Pinto, B. Yegnanarayana, H. Hermansky and M. Magimai-Doss, **Exploiting contextual information for improved phoneme recognition**, *Proc. ICASSP 2008*, Las Vegas, Nevada, USA, pp. 4449-4452, March 31- April 4, 2008.

13. Leena Mary and B. Yegnanarayana, **Prosodic features for language identification**, *Proc. International Conference on Signal Processing, Communications and Networking, 2008*, Chennai, India, pp. 57-62, Jan. 4-6, 2008
14. C. Krishna Mohan and B. Yegnanarayana, **Edge-based classification of sports videos using HMM**, *Third Indian International Conference on Artificial Intelligence (IICAI-07)*, Pune, India, pp. 559-564, Dec. 17-19, 2007.
15. S. Guruprasad, B. Yegnanarayana and K. Sri Rama Murty, **Detection of instants of glottal closure using characteristics of excitation source**, *Proc. INTERSPEECH 2007*, Antwerp, Belgium, pp. 554-557, Aug. 27-31, 2007.
16. K. Sri Rama Murty, B. Yegnanarayana and S. Guruprasad, **Voice activity detection in degraded speech using excitation source information**, *Proc. INTERSPEECH 2007*, Antwerp, Belgium, pp. 2941-2944, Aug. 27-31, 2007.
17. C. Krishna Mohan, Suryakanth V. Gangashetty and B. Yegnanarayana, **Categorization of sports video using SVMs**, *Proc. Eleventh International Conference on Cognitive and Neural Systems (ICCNS- 07)*, Boston, USA, pp. 47, May 16-19, 2007.
18. K. Sreenivasa Rao and B. Yegnanarayana, **Voice conversion by prosody and vocal tract modification**, *Proc. Ninth International Conference on Information Technology*, Bhubaneswar, Orissa, India, pp. 111-116, Dec. 2006.
19. S. Kishore Prahallad, Suryakanth V. Gangashetty, B. Yegnanarayana and D. Raj Reddy, **Problems and prospects in collection of spoken language data**, *Proc. Second International Conference on Universal Digital Library*, Alexandria, Egypt, pp. 95-101, Nov. 2006.
20. Anil Kumar Sao and B. Yegnanarayana, **Template matching approach for pose problem in face verification**, *Proc. International Workshop on Multimedia Content Representation Classification and Security (MRCIS-2006)*, Istanbul, Turkey, pp. 191-198, Sep. 11-13, 2006.
21. N. Dhananjaya and B. Yegnanarayana, **Correlation-based similarity between signals for speaker verification with limited amount of speech data**, *Proc. International Workshop on Multimedia Content Representation Classification and Security (MRCIS-2006)*, Istanbul, Turkey, pp. 17-25, Sep. 11-13, 2006.
22. Leena Mary and B. Yegnanarayana, **Prosodic features for speaker verification**, *Proc. INTERSPEECH 2006*, Pittsburgh, Pennsylvania, USA, pp. 917-920, Sep. 2006.
23. A. Shahina and B. Yegnanarayana, **Mapping neural networks for bandwidth extension of narrowband speech**, *Proc. INTERSPEECH 2006*, Pittsburgh, Pennsylvania, USA, pp. 1435-1438, Sep. 2006.
24. Anand Joseph M. Guruprasad S. and B. Yegnanarayana, **Extracting formants from short segments of speech using group delay functions**, *Proc. INTERSPEECH 2006*, Pittsburgh, Pennsylvania, USA, pp. 1009-1012, Sep. 2006.
25. C. Krishna Mohan, N. Dhananjaya, Suryakanth V. Gangashetty, and B. Yegnanarayana, **Sports video classification using autoassociative neural network models**, *Proc. Tenth International Conference on Cognitive and Neural Systems (ICCNS- 06)*, Boston, USA, pp. 30, May 17 -20, 2006.

26. Leena Mary and B. Yegnanarayana, **Consonant-Vowel Based Features for Language Identification Systems**, *Proc. Int. Conf. Natural Language Processing*, pp. 103-106, IIT Kanpur, Dec 2005.
27. A. Shahina and B. Yegnanarayana, **Recognition of Consonant-Vowel Units in Throat Microphone Speech**, *Proc. Int. Conf. Natural Language Processing*, IIT Kanpur, Dec 2005.
28. S. R. Mahadeva Prasanna and B. Yegnanarayana, **Detection of Vowel Onset Point Events using Excitation Information**, *Proc. INTERSPEECH-05*, pp. 1133-1136, Lisbon, Portugal, Sept 4-8, 2005.
29. B. Yegnanarayana, R. Kumara Swamy and S. R. Mahadeva Prasanna, **Separation of multispeaker speech using excitation information**, *Proc. 3rd Int. Conf. Non-linear speech processing*, Barcelona, Spain, pp. 11-18, Apr 19-22, 2005.
30. Suryakanth V. Gangashetty, C. Chandra Sekhar and B. Yegnanarayana, **Spotting Multilingual Consonant-Vowel Units of Speech Using Neural Networks**, *Proc. 3rd Int. Conf. Non-linear speech processing*, Barcelona, Spain, pp. 287-297, Apr 19-22, 2005.
31. Naresh P. Cuntoor, B. Yegnanarayana and Rama Chellappa, **Interpretation of State Sequences in HMM for Activity Representation**, *Proc. Int. Conf. Acoustics Speech and Signal Processing (ICASSP-05)*, pp. 709-712, Philadelphia, PA, USA, March 18-23, 2005.
32. Vakkalanka Suresh, S. Palanivel, and B.Yegnanarayana, **NVIBRS-News Video Indexing, Browsing and Retrieval System**, *IEEE Int. Conf. Intelligent Sensing and Information Processing (ICISIP-05)*, Chennai, India, Jan 4-7, pp. 181-186, 2005.
33. Vakkalanka Suresh, C.Krishna Mohani, R. Kumaraswamy, and B.Yegnanarayana, **Combining multiple evidence for video classification**, *IEEE Int. Conf. Intelligent Sensing and Information Processing (ICISIP-05)*, Chennai, India, Jan 4-7, pp. 187-192, 2005.
34. A. Nayeemulla Khan and B. Yegnanarayana, **Vowel onset point based variable frame rate analysis for speech recognition**, *IEEE Int. Conf. Intelligent Sensing and Information Processing (ICISIP-05)*, CHENNAI, India, Jan 4-7, 2005.
35. A. Shahina and B. Yegnanarayana, **Language identification in noisy environments using throat microphone signals**, *IEEE Int. Conf. Intelligent Sensing and Information Processing (ICISIP-05)*, CHENNAI, India, Jan 4-7, 2005.
36. Leena Mary, K. Sreenivasa Rao and B.Yegnanarayana, **Neural Network Classifiers for Language Identification using Syntactic and Prosodic features**, *IEEE Int. Conf. Intelligent Sensing and Information Processing (ICISIP-05)*, Chennai, India, Jan 4-7, 2005.
37. K. Sri Rama Murty, S.R. Mahadeva Prasanna, B. Yegnanarayana, **Neural Network Models for Extracting Complementary Speaker-Specific Information from Residual Phase**, *IEEE Int. Conf. Intelligent Sensing and Information Processing (ICISIP-05)*, Chennai, India, Jan 4-7, 2005.

38. S.V.Gangashetty, C.Chandra Sekhar and B.Yegnanarayana, **Combining Evidence from Multiple Classifiers for Recognition of Consonant-Vowel Units of Speech in Multiple Languages**, *accepted for publication in IEEE Int. Conf. Intelligent Sensing and Information Processing*, Chennai, India, pp. 387-391, Jan 2005.
39. K. Sri Rama Murty, S.R. Mahadeva Prasanna, B. Yegnanarayana, **Speaker-specific information from residual phase**, *SPCOM 2005*, Bangalore, India, Jan 2005.
40. A. Nayeemulla Khan and B. Yegnanarayana, **Syllable as a unit for speech recognition: An information theoretic perspective**, in *Proc. Int. Conf. Natural Language Processing (ICON-04)*, Hyderabad, India, pp. 219-224, Dec 19-22 2004.
41. K.Sreenivasa Rao and B.Yegnanarayana, **Impact of constraints on prosody modeling for Indian languages**, in *Proc. 2nd International Conference on Natural Language Processing (ICON-2004)*, Hyderabad, India, pp.225-236, Dec 19-22 2004.
42. K.Sreenivasa Rao and B.Yegnanarayana, **Neural network models for test-to-speech synthesis**, in *Proc. 5th International Conference on Knowledge Based Computer Systems (KBCS-2004)*, Hyderabad, India, Dec 19-22 2004.
43. K.Sreenivasa Rao and B.Yegnanarayana, **Two-stage duration model for Indian languages using neural networks**, in *Proc. 11th Int. Conf. Neural Information Processing (ICONIP-2004)*, pp.1179-1185, Kolkata, India, Nov 22-25 2004.
44. Dhananjaya. N, Guruprasad. S, and B.Yegnanarayana, **Speaker Segmentation Based on Subsegmental Features and Neural Network Models**, in *Proc. 11th Int. Conf. Neural Information Processing (ICONIP-04)*, pp.1210-1215, Kolkata,India, Nov 22-25 2004.
45. Vakkalanka Suresh, C.Krishna Mohan, R. Kumaraswamy, and B.Yegnanarayana, **Content-Based Video Classification using SVMs**, in *Proc. 11th Int. Conf. on Neural Information Processing (ICONIP-04)*, Kolkata, India, pp.726-731, Nov 22-25 2004.
46. A. Nayeemulla Khan and B. Yegnanarayana, **Speech enhanced multi-span language model**, in *Proc. Int. Conf. Spoken Language Processing (INTERSPEECH)*, Korea, pp. 2249-2252, Oct 2004.
47. Suryakanth V. Gangashetty, C. Chandra Sekhar and B. Yegnanarayana, **Detection of vowel onset points in continuous speech using autoassociative neural network models**, in *Eighth Int. Conf. Spoken Language Processing (INTERSPEECH 2004 - ICSLP)*, Jeju Island, Korea, pp. 1081-1084, Oct 2004.
48. A. Nayeemulla Khan and B. Yegnanarayana, **Latent semantic analysis for speaker recognition**, in *Proc. Int. Conf. Spoken Language Processing (INTERSPEECH)*, Jeju Island, Korea, pp. 2589-2592, Oct 2004.
49. M.Chaitanya, S.R.M. Prasanna and B.Yegnanarayana, **Enhancement of reverberant speech using excitation source information**, in *INTERSPEECH*, Jeju Island, Korea, pp. 2645-2648, Oct 2004.
50. A.Shahina, B.Yegnanarayana and M.R. Kesheorey **Throat Microphone Signal for Speaker Recognition**, in *8th Int. Conf. on Spoken Language Processing (Interspeech-2004)*, Jeju Island, Korea, Oct 2004.

51. K. Sreenivasa Rao and B.Yegnanarayana, **Intonation modeling for Indian languages**, in *8th Int. Conf. on Spoken Language Processing (Interspeech-2004)*, Jeju Island, Korea, pp. 733-736, Oct 2004.
52. Suryakanth V. Gangashetty, C. Chandra Sekhar and B. Yegnanarayana, **Spotting consonant-vowel units in continuous speech using autoassociative neural networks and support vector machines**, in *IEEE Int. Workshop on Machine Learning for Signal Processing*, Sao Luis, Brazil, pp. 401-410, Sep 2004.
53. Anvita Bajpai and B.Yegnanarayana, **Audio Clip Classification using LP Residual and Neural Networks Models**, in *IEUSIPCO - 2004*, Vienna-Austria, 6-10 Sep 2004.
54. S.Palanivel, B.Yegnanarayana and B.V.K.Vijaya Kumar, **Person authentication using acoustic and visual features**, in *Workshop on Biometric Challenges arising from Theory to Practice (BCTP)*, Cambridge, UK, pp.55-58, Aug 2004.
55. V.Suresh, S.Palanivel and B.Yegnanarayana, **Anchor person indexing and visual table of contents generation for TV news**, in *Workshop on Biometric Challenges arising from Theory to Practice (BCTP)*, Cambridge, UK, pp.59-62, August 2004.
56. S.V. Gangashetty, C. Chandra Sekhar and B. Yegnanarayana, **Acoustic model combination for recognition of speech in multiple languages using support vector machines**, *IEEE Int. Joint Conf. Neural Networks*, Budapest, Hungary, pp. 3065-3069, July 2004.
57. C. Xie, S. Palanivel, B. Yegnanarayana and B.V.K.V. Kumar, **A still-to-video face verification system using advanced correlation filters**, *Int. conf. biometric authentication*, Hongkong , pp. 102-108, July 2004.
58. C. Xie, S. Palanivel, B. Yegnanarayana and B.V.K Vijaya Kumar, **An optimal tradeoff synthetic discriminant function filter based still-to-video face verification system**, *Proc. of SPIE: Biometric technology for human identification*, Orlando, Florida, USA, pp. 106-113, April 12-16, 2004.
59. Leena Mary, K. Sri Rama Murty, S.R. Mahadeva Prasanna and B. Yegnanarayana, **Features for speaker and language identification**, *ODYSSEY'04*, Toledo, Spain, pp. 323-328, June 2004.
60. Leena Mary, K. Sreenivasa Rao, Suryakanth V. Gangashetty and B. Yegnanarayana, **Neural network models for capturing duration and intonation knowledge for language and speaker identification**, *International Conference on Cognitive and Neural Systems*, Boston, USA, pp. 34, May 2004.
61. S.R.M. Prasanna and B. Yegnanarayana, **Extraction of pitch in adverse conditions**, *ICASSP- 2004*, Montreal Quebec, Canada, pp. 109-112, May 2004.
62. K.Sreenivasa Rao and B. Yegnanarayana, **Modelling syllable duration in Indian languages using neural networks**, *ICASSP- 2004*, Montreal Quebec, Canada, pp. 313-316, May 2004.
63. B. Yegnanarayana, Anil Kumar Sao, B.V.K. Vijay Kumar and Marios Savvides, **Determination of pose angle for face using dynamic space warping**, *Int. Conf. on Information Technology: Coding and Computing*, Las Vegas, USA, pp. 661-664, April 2004.

64. K. Venkataramani and Anil Kumar Sao and B.Yegnanarayana and B.V.K.Vijaya Kumar, **Face authentication using one-dimensional processing** , in *Society of Photo-Optical Instrumentation Engineers*, Florida, USA, pp. 5404-62, April 2004.
65. Leena Mary and B. Yegnanarayana, **Autoassociative neural network models for language identification**, *ICISIP 2004*, Chennai, India, pp.317–320, January 3-7, 2004.
66. Anvita Bajpai and B.Yegnanarayana, **Exploring features for audio clip classification using LP residual and AANN models**, *ICISIP 2004*, Chennai, India, pp.305–310, January 3-7, 2004.
67. S.R. Mahadeva Prasanna, Jinu Mariam Zachariah and B. Yegnanarayana, **Neural network models for combining evidence from spectral and supra segmental features for text-dependent speaker verification**, *ICISIP 2004*, Chennai, India, pp.359–363, January 3-7, 2004.
68. Anil Kumar Sao and B. Yegnanarayana, **Face verification using correlation filters and auto associative neural networks**, *ICISIP 2004*, Chennai, India, pp.364–367, January 3-7, 2004.
69. A Nayeemulla Khan, Suryakanth V. Gangashetty and B. Yegnanarayana, **Neural network preprocessor for recognition of syllables**, *ICISIP 2004*, Chennai, India, pp.171–174, January 3-7, 2004.
70. Suryakanth V. Gangashetty, C. Chandra Sekhar and B. Yegnanarayana, **Extraction of fixed dimension patterns from varying duration segments of consonant-vowel utterances**, *ICISIP 2004*, Chennai, India, pp.159–164, January 3-7, 2004.
71. Suryakanth V. Gangashetty, C. Chandra Sekhar and B. Yegnanarayana, **Dimension reduction using autoassociative neural network models for recognition of consonant-vowel units of speech**, *Fifth Int. Conf. Advances in Pattern Recognition*, ISI Calcutta, India, pp. 156-159, December 2003.
72. A. Nayeemulla Khan, Suryakanth V. Gangashetty and B. Yegnanarayana, **Syllabic properties of three Indian languages: Implications for speech recognition and language identification**, *Proc. Int. Conf. Natural Language Processing*, Mysore, India, pp. 125-134, December 2003.
73. K. Sreenivasa Rao, Suryakanth V. Gangashetty and B. Yegnanarayana, **Duration analysis for Telugu language** *Proc. Int. Conf. Natural Language Processing*, Mysore, India, pp. 152-158, December 2003.
74. V. C. Raykar, R. Duraiswamy, B. Yegnanarayana and S. R. Mahadeva Prasanna, **Tracking a moving speaker using excitation source information** *EUROSPEECH 2003*, Geneva, Switzerland, pp. 69-72, september 1-4, 2003.
75. B. Yegnanarayana, S. R. Mahadeva Prasanna and M. Mathew, **Speech enhancement in multispeaker environment using excitation source information**, *EUROSPEECH 2003*, Geneva, Switzerland, pp. 581-584, September 1-4, 2003.
76. Guruprasad. S, Dhananjaya. N and B. Yegnanarayana, **AANN models for speaker recognition based on difference cepstrals**, *IJCNN 2003*, Portland, Oregon, USA, pp. 692-697, July 20-24, 2003.

77. Vikas C. Raykar, B. Yegnanarayana, Ramani Duraiswami and Larry Davis, **Extracting significant features from the HRTF**, *9th Int. Conf. Auditory Display*, Boston, USA, July, 2003.
78. S. Palanivel, Vinod Pathangay and B. Yegnanarayana, **Audio-visual based person authentication system**, *IEEE International Conference On Multimedia And Expo.- Demonstration Session*, Baltimore, USA, July 2003.
79. S. Palanivel, B. S. Venkatesh and B. Yegnanarayana, **Real time face authentication using autoassociative neural network models**, *IEEE International Conference On Multimedia and Expo.*, Baltimore, USA, pp. 257-260, July 2003.
80. Suryakanth V. Gangashetty, K. Sreenivasa Rao, A. Nayeemulla Khan, C. Chandra Sekhar, and B. Yegnanarayana, **Combining evidence from multiple modular networks for recognition of consonant-vowel units of speech**, *International Joint Conference on Neural Networks*, Portland, USA, pp. 686-691, July 2003.
81. K. Sreenivasa Rao and B. Yegnanarayana, **Prosodic manipulation using instants of significant excitation**, *Proc. IEEE International Conference On Multimedia and Expo.*, Baltimore, USA, July 2003.
82. Suryakanth V. Gangashetty, C. Chandra Sekhar and B. Yegnanarayana, **Constraint satisfaction model for enhancement of evidence in recognition of consonant-vowel utterances**, *ICASSP- 2003*, Hong-Kong, China, pp. 753-756 April 2003.
83. S. R. Mahadeva Prasanna, J. M. Zachariah, and B. Yegnanarayana, **Begin-end detection using vowel onset points**, *Proc. Int. Workshop on Spoken Language Processing*, TIFR, Mumbai, India, January 9-11, 2003.
84. K. Kiran Kumar, K. Sreenivasa Rao and B. Yegnanarayana, **Duration knowledge for text-to-speech conversion system for Telugu**, *International Conference Knowledge Based Computer Systems*, Mumbai, India, pp. 563-571, December 18-21, 2002.
85. S. Ramesh, B. Yegnanarayana, Sukhendu Das, and Rama Chellappa, **Face recognition using edginess-based representation**, *Proc. Workshop on Signal Processing, Communication, Chaos and Systems*, Newport, USA, pp. 136-141, June 20, 2002.
86. S. Ramesh, S.Palanivel, Sukhendu Das, and B. Yegnanarayana, **Eigenedginess vs eigenhill, eigenface and eigenedge**, *European Association for Signal, Speech and Image Processing, Toulouse*, France, September 3-6, 2002.
87. S. R. Mahadeva Prasanna, Cheedella S. Gupta, and B. Yegnanarayana, **Autoassociative neural network models for speaker verification using source features**, *Sixth International Conference on Cognitive and Neural Systems*, Boston, USA, May 30-June 1, 2002.
88. B. Yegnanarayana, S. R. Mahadeva Prasanna, and K. Sreenivasa Rao, **Speech enhancement using excitation source information**, *ICASSP- 2002*, Orlando, USA, May 13-17, 2002.
89. Suryakanth V.Gangashetty, S. R. Mahadeva Prasanna, and B. Yegnanarayana, **Linear and nonlinear compression of feature vectors for speech recognition**, *ICASSP- 2002*, Orlando, USA, May 13-17, 2002.

90. Suryakanth V. Gangashetty, A. Nayeemulla Khan, S. R. Mahadeva Prasanna, and B. Yegnanarayana, **Neural network models for preprocessing and discriminating utterances of consonant-vowel units**, *INNS-IEEE International Joint Conference on Neural Networks*, Hawaii, USA, pp. 613-618, May 12-17, 2002.
91. Cheedella S. Gupta, S. R. Mahadeva Prasanna, and B. Yegnanarayana, **Autoassociative neural network models for online speaker verification using source features from vowels**, *INNS-IEEE International Joint Conference on Neural Networks*, Hawaii, USA, May 12-17, 2002.
92. B. Yegnanarayana, S. R. Mahadeva Prasanna and Suryakanth V. Gangashetty, **Autoassociative neural network models for speaker recognition**, *Proc. Workshop on Embedded System*, HiPC-2001, Hyderabad, December 18-20, 2001.
93. S. R. Mahadeva Prasanna, Suryakanth V. Gangashetty and B. Yegnanarayana, **Significance of vowel onset point for speech analysis**, *Sixth Biennial Conference on Signal Processing and Communications*, Bangalore, pp. 81-88, July 15-19, 2001.
94. S. P. Kishore, B. Yegnanarayana and Suryakanth V. Gangashetty, **Online text-independent speaker verification system using autoassociative neural network models**, *Proc. INNS-IEEE International Joint Conference on Neural Networks*, Washington DC, USA, vol.2(4), pp. 1548-1553, July 14-19, 2001.
95. Suryakanth V. Gangashetty and B. Yegnanarayana, **Neural network models for recognition of consonant-vowel (CnV) utterances**, *Proc. INNS-IEEE International Joint Conference on Neural Networks*, Washington DC, USA, vol.2(4), pp. 1542-1547, July 14-19, 2001.
96. D. Devaraj and B. Yegnanarayana, **Performance of neural network based contingency selection with reduced input features**, *Proc. Intelligent System Application to Power Systems*, Budapest, Hungary, June 17-21, 2001.
97. B. Yegnanarayana, K. Sharat Reddy and S. P. Kishore, **Source and system features for speaker recognition using AANN models**, *Proc. International Conference on Acoustic, Speech and Signal Processing, ICASSP'01*, Saltlake City, Utah, USA, May 7-11, 2001.
98. S. Kajarekar and B. Yegnanarayana and H. Hermansky, **A study of two dimensional linear discriminants for ASR**, *Proc. International Conference on Acoustic, Speech and Signal Processing, ICASSP'01*, Salt Lake City, Utah, USA, May 7-11, 2001.
99. K. V. S. Prasada Reddy, Sukhendu Das, Koshy Varghese and B. Yegnanarayana, **Detecting road segments from satellite images**, *International Conference on Communications, Computers and Devices*, IIT Kharagpur, India, vol.2, pp. 451-454, December 14-16, 2000.
100. S. P. Kishore and B. Yegnanarayana, **Online text-independent speaker verification system**, *International Conference on Multimedia Processing and Systems*, Chennai, pp. 178-180, August 13-15, 2000.
101. P. Kiran Kumar, Sukhendu Das and B. Yegnanarayana, **One-dimensional processing of images**, *International Conference on Multimedia Processing and Systems*, Chennai, pp. 181-185, August 13-15, 2000.

102. D. Devaraj and B. Yegnanarayana, **An adaptive fuzzy system model for power system security assessment**, *International Conference on Communications, Control and Signal Processing in the next Millennium*, Bangalore, pp. 284-288, July 25-28, 2000.
103. S. P. Kishore and B. Yegnanarayana, **Speaker verification: Minimizing channel effects using auto-associative neural network models**, *IEEE International Conference on Acoustics, Speech and Signal Processing*, Istanbul, pp. 1101-1104, June 6-9, 2000.
104. B. Yegnanarayana, S. P. Kishore and A. V. N. S. Anjani, **Neural network models for capturing probability distribution of training data**, *Fourth International Conference on Cognitive and Neural Systems*, Boston, pp. 6(A), May 25-27, 2000.
105. J. Y. Siva Rama Krishna Rao, C. Chandra Sekhar and B. Yegnanarayana, **Neural networks based approach for detection of vowel onset points**, *Proc. International Conference on Advances in Pattern Recognition and Digital Techniques*, Calcutta, pp. 316-320, December 27-29, 1999.
106. S. P. Kishore and B. Yegnanarayana, **Identification of handset-type using Auto-Associative Neural Networks**, *Proc. International Conference on Advances in Pattern Recognition and Digital Techniques*, Calcutta, pp. 353-356, December 27-29, 1999.
107. B. Yegnanarayana, **Speech processing for diagnostic applications**, *Proc. International Conference on Medical Diagnostic Techniques and procedures*, pp. 348-357, December 15-17, 1999.
108. D. Devaraj, T. V. S. N. L. N. Murthy and B. Yegnanarayana, **A fuzzy system model for plant condition monitoring**, *Proc. International AMSE Conference on Computer Modeling, Simulation and Communication*, Jaipur, December 1-3, 1999
109. M. Mathew, B. Yegnanarayana and R. Sundar, **A neural network-based text-dependent speaker verification system using suprasegmental features**, *Proc. European Conference on Speech Communication and Technology*, Budapest, Hungary, September 5-9, 1999.
110. Bayya Aruna and B. Yegnanarayana, **Noise invariant representation for speech signals**, *Proc. European Conference on Speech Communication and Technology*, Budapest, Hungary, September 5-9, 1999.
111. M. S. Ikbal, H. Misra and B. Yegnanarayana, **Analysis of autoassociative mapping neural networks**, *Proc. International Joint Conference on Neural Networks*, Washington, USA, July 12-16, 1999.
112. Aruna Bayya and B. Yegnanarayana, **Robust features for speech recognition systems**, *Proc. ICSLP*, Sydney, Australia, vol.4, pp. 1411-1414, Nov.30 –Dec.4, 1998.
113. Manish Sarkar and B. Yegnanarayana, **Fuzzy-rough membership functions**, *Proc. IEEE International Conference on Systems, Man and Cybernetics*, California, USA, October 11-14, 1998.
114. Manish Sarkar and B. Yegnanarayana, **A review on merging some recent techniques with artificial neural networks**, *Proc. IEEE International Conference on Systems, Man and Cybernetics*, California, USA, October 11-14, 1998.

115. Manish Sarkar and B. Yegnanarayana, **Fuzzy-rough neural networks for vowel classification**, *Proc. IEEE International Conference on Systems, Man and Cybernetics*, California, USA, October 11-14, 1998.
116. B. Yegnanarayana, Anitha Mary Jacob and Aruna Bayya, **Spectrum estimation through group delay functions**, *Proc. IEEE DSP Workshop*, August 9-12, 1998.
117. Manish Sarkar and B. Yegnanarayana, **Rough-fuzzy membership functions**, *Proc. IEEE World Congress on Computational Intelligence*, Alaska, USA, pp. 796-801, May 4-9, 1998.
118. Manish Sarkar and B. Yegnanarayana, **Application of fuzzy-rough sets in modular neural networks**, *Proc. IEEE World Congress on Computational Intelligence*, Alaska, USA, pp. 741-746, May 4-9, 1998.
119. B. Yegnanarayana, P.Satyanarayana Murthy, C. Avendano and H. Hermansky, **Enhancement of reverberant speech using LP residual**, *Proc. International Conference on Acoustics Speech and Signal Processing*, Seattle, vol. 1, pp. 405-408, May 12-15, 1998.
120. C. Chandra Sekhar and B. Yegnanarayana, **Modular networks and constraint satisfaction model for recognition of Stop-Consonant-Vowel (SCV) utterances**, *Proc. International Joint Conference on Neural Networks*, Alaska, USA, pp. 1206-1211, May 1998.
121. N. Jagadeesh Babu, M. Sanjay, B. Yegnanarayana and Sukhendu Das, **Matching noisy bitmap images based on distance transform**, *Proc. ISIRS'98*, Bangalore, January 9-12, 1998.
122. B. Yegnanarayana, C. Avendano, H. Hermansky and P. Satyanarayana Murthy, **Processing linear prediction residual for speech enhancement**, *Proc. European Conference on Speech Communication and Technology*, Rhodes-Greece, vol.3, pp. 1399-1402, September 22-25, 1997.
123. M. Sarkar and B. Yegnanarayana, **Incorporation of fuzzy classification properties into backpropagation learning algorithm**, *Proc. IEEE International Conference on Fuzzy Systems*, Barcelona, Spain, pp. 1701-1706, July 1-5, 1997.
124. M. Sarkar and B. Yegnanarayana, **An evolutionary programming-based probabilistic neural network construction technique**, *Proc. International Conference on Neural Networks, ICNN-97*, Texas, USA, pp. 456-461, June 9-12, 1997.
125. M. Sarkar and B. Yegnanarayana, **Feedforward neural network configuration using evolutionary programming**, *Proc. International Conference on Neural Networks, ICNN-97*, Texas, USA, pp. 438-443, June 9-12, 1997.
126. M. Sarkar and B. Yegnanarayana, **Rough fuzzy set theoretic approach to evaluate the importance of input features in classification**, *Proc. International Conference on Neural Networks, ICNN-97*, Texas, USA, pp. 1590-1595, June 9-12, 1997.
127. B. Yegnanarayana, **Phase, residual and suprasegmental information in speech processing**, *Proc. International Conference on Communication Technologies*, Bangalore, pp. 14-19, December 1996.

128. C. Chandra Sekhar, B. Yegnanarayana and R. Sundar, **A constraint satisfaction model for recognition of Stop Consonant-Vowel (SCV) utterances in Indian languages**, *Proc. International Conference on Communication Technologies*, Bangalore, pp. 134-139, December 1996.
129. M. Sarkar, B. Yegnanarayana and D. Khemani, **Feedforward neural networks and fuzzy classification**, *Proc. International Conference on Advanced Computing*, Bangalore, pp. 65-72, December 16-18, 1996.
130. C. Chandra Sekhar and B. Yegnanarayana, **Neural network models for spotting Stop-Consonant-Vowel (SCV) segments in continuous speech**, *Proc. International Conference on Neural Networks, ICNN-96*, Washington D.C, USA, pp. 2003-2008, June 3-6, 1996.
131. Manish Sarkar and B. Yegnanarayana, **A clustering algorithm using evolutionary programming**, *Proc. International Conference on Neural Networks, ICNN-96*, Washington, USA, pp. 1162-1167, June 3-6, 1996.
132. P. P. Raghu and B. Yegnanarayana, **Texture classification using probabilistic neural networks and constraint satisfaction model**, *Proc. International Conference on Neural Networks, ICNN-96*, Washington D.C, USA, pp. 424-429, June 3-6, 1996.
133. Manish Sarkar and B. Yegnanarayana, **Evolutionary programming-based fuzzy clustering**, *Proc. Annual Conference on Evolutionary Programming*, Cambridge, pp. 247-256, Feb. 29-Mar. 3, 1996.
134. Babu Thomas, B. Yegnanarayana, and Sukhendu Das, **Stereo-correspondence using Gabor Ligons and neural networks**, *Proc. IEEE International Conference on Image Processing*, Washington D.C, USA, October 23-26, 1995.
135. V. Darsinos, C. d'Alessandro, and B. Yegnanarayana, **Evaluation of a periodic/aperiodic speech decomposition algorithm**, *European Conference on Speech Communication and Technology*, Madrid, Spain, pp. 393-396, September 18-21, 1995.
136. C. d'Alessandro, V. Darsinos, and B. Yegnanarayana, **Evaluation of periodic/aperiodic decomposition for analysis of aperiodicities in the voice source**, *Proc. International Conference on Musical Acoustics*, Le Normont, Dourdan, France, pp. 446-452, July 2-6, 1995.
137. B. Yegnanarayana and R. L. H. M. Smits, **A robust method for determining instants of major excitations in voiced speech**, *ICASSP-95*, Detroit, USA, pp. 776-779, May 9-12, 1995.
138. C. d'Alessandro, B. Yegnanarayana, and V. Darsinos, **Decomposition of speech signals into deterministic and stochastic components**, *ICASSP-95*, Detroit, USA, pp. 760-763, May 9-12, 1995.
139. B. Yegnanarayana, S. P. Wagh, and S. Rajendran, **A speaker verification system using prosodic features**, *Proc. ICSLP94*, pp. 1867-1870, September 1994.
140. B. Yegnanarayana, C. Chandra Sekhar, and S. R. Prakash, **Fuzzyfication of formant trajectories for classification of CV utterances using neural network models**, *Proc. IEEE Workshop on Neural Networks for Signal Processing*, Ermioni, Greece, September 1994.

141. P. P. Raghu, R. Poongodi, and B. Yegnanarayana, **Texture classification using a combined self-organizing map and multilayer perception**, *Proc. Int. Conf. on Computer Systems and Education*, IISc, Bangalore, pp. 145-153, June 1994.
142. B. Yegnanarayana, C. Chandra Sekhar, and S. R. Prakash, **Recognition of CV segments using fuzzy neural networks**, *Proc. World Congress on Neural Networks*, Diego, USA, June 1994.
143. M. Narendranath, Hema A. Murthy, S. Rajendran, and B. Yegnanarayana, **Voice conversion using artificial neural networks**, *Proc. Workshop on Automatic Speaker Recognition, Identification and Verification*, Switzerland, April 1994.
144. C. Chandra Sekhar and B. Yegnanarayana, **Classification of CV transitions in continuous speech using neural network models**, *Proc. Int. Symposium on Speech, Image Processing and Neural Networks*, Hong Kong, pp. 97-100, April 13-16, 1994.
145. B. Yegnanarayana, P. Satyanarayana Murthy, and J.H.Eggen, **Source system windowing for speech analysis**, *IPO Annual Progress Report 28*, pp. 53-58, 1993.
146. B. Yegnanarayana and P. Satyanarayana Murthy, **On windowing speech data for analysis**, *Proc. Third Int. Conf. on Advances in Pattern Recognition and Digital Techniques*, ISI, Calcutta, pp. 334-345, December 1993.
147. B. Yegnanarayana and R. Ramaseshan, **An artificial neural network model for image reconstruction for multiple frame of noisy sparse data**, *INDO-US Workshop on Parallel and Distributed Signal and Image Integration*, December 1993.
148. P. P. Raghu, R. Poongodi, and B. Yegnanarayana, **Texture classification using a two-stage neural network approach**, *Proc. International Joint Conference on Neural Network, IJCNN-93*, Nagoya, Japan, vol.3, pp. 2195-2198, October 25-29, 1993.
149. B. Yegnanarayana, A. S. Madhukumar, and V. R. Ramachandran, **Robust features for applications in speech and speaker recognition**, *Proc. ESCA Workshop on Speech Processing in Adverse Conditions*, Cannes Mandelieu, France, November 1992.
150. A. A. Valan and B. Yegnanarayana, **Directed spreading activation in multiple layers for lowerlevel feature extraction**, *Proc. ICCS/ISITA '92*, Singapore, pp. 563-567, November 1992.
151. B. Yegnanarayana, H.M.Chouhan, C. Chandra Sekhar, and R.P.Singh, **Sonar target recognition using radial basic function networks**, *Proc. ICCS/ISITA '92*, Singapore, pp. 395-399, November 1992.
152. B. Yegnanarayana and V. R. Ramachandran, **Group delay processing of speech signals**, *Proc. ESCA workshop on Comparing Speech Signal Representation*, Sheffield, England, pp. 411-418, April 1992.
153. B. Yegnanarayana, S. Rajendran, S. R. Rajesh Kumar, V.R.Ramachandran, and A. S. Madhukumar, **Knowledge sources for a text-to-speech system in Hindi**, *Proc. Regional Workshop on Computer Processing of Asian Languages*, Indian Institute of Technology, Kanpur, pp. 233-242, March 1992.

154. Shriram Revankar and B. Yegnanarayana, **Machine Recognition and Correction of Freehand Geometric Line Sketches**, *Proc. 1991 IEEE Int. Conference on System, Man and Cybernetics*, Chanlotterville, Virginia, USA, pp. 87-92, October 13-16, 1991.
155. A. S. Madhukumar, S. Rajendran, and B. Yegnanarayana, **Synthesizing intonation for Indian Languages**, *Proc. 1991 IEEE Region 10 Int. conf. (TENCON'91)*, New Delhi, India, pp. 224-228, September 1991.
156. A. S. Madhukumar, S. Rajendran, C. Chandra Sekhar, and B. Yegnanarayana, **Synthesizing intonation for speech in Hindi** *Proc. EUROSPEECH 91*, Genova, Italy, pp. 1153-1156, September 24-26, 1991.
157. A. S. Madhukumar, S. Rajendran, and B. Yegnanarayana, **Significance of prosodic knowledge in a text-to-speech system for Hindi** *Proc. XII Int. Congress on Phonetic sciences*, Aiz-en-Provence, France, pp. 494-497, August 19-24, 1991.
158. A. Ravichandran and B. Yegnanarayana, **A two stage neural network for translation, rotation and size-invariant visual pattern recognition**, *ICASSP-91*, Toronto, Canada, pp. 2393-2396, May 14-17, 1991.
159. B. Yegnanarayana, Hema A Murthy, and V. R. Ramachandran, **Speech Processing using modified group delay functions**, *ICASSP-91*, Toronto, Canada, pp. 945-948, May 14-17, 1991.
160. B. Yegnanarayana, R. Ramaseshan, and A. Ravichandran, **Improving resolution of sensor array images using multiple frames of data**, *19th Int. Symposium on Acoustical Imaging*, Bochum, FRG, April 3-5, 1991.
161. B. Yegnanarayana, Hema A. Murthy, and V. R. Ramachandran, **Speech enhancement using group delay functions**, *Proc. ICSLP 90*, Kobe, Japan, vol.2, pp. 301-304, November 18-22, 1990.
162. B. Yegnanarayana and Hema A. Murthy, **New methods of processing noisy signals using group delay functions**, *Int. Conf. on Communication Systems '90*, Singapore, vol.2, pp. 27.21-27.25, November 1990.
163. B. Yegnanarayana, R. Ramaseshan, and A. Ravichandran, **An algorithm for thinning noisy images**, *Proc. ICASSP-90*, vol.4, pp. 2217-2220, April 3-6, 1990.
164. S. R. Rajesh Kumar and B. Yegnanarayana, **Significance of durational knowledge for speech synthesis system in an Indian Language**, *Proc. IV IEEE Region 10 Int. Conf. (TENCON '89)*, Bombay, pp. 486-489, November 22-24, 1989.
165. B. Yegnanarayana, R. Ramaseshan, and A. Ravichandran, **Image reconstruction from multiple frames of sensor array data**, *Indo-US workshop on Spectrum Analysis in one and Two Dimensions*, New Delhi, pp. 367-382, November 27-29, 1989.
166. G. V. Ramana Rao, M. Prakash and B. Yegnanarayana, **Word boundary hypothesisation in Hindi Speech**, *Proc. European Conference on Speech communication and Technology, EUROSPEECH'89*, Paris, France, vol.2, pp. 360-363, September 26-28, 1989.

167. M. Prakash, G. V. Ramana Rao, C. Chandra Sekhar, and B. Yegnanarayana, **parsing spoken utterances in an inflectional language**, *Proc. European Conference on Speech Communication and Technology, EUROSPEECH'89*, Paris, France, vol.1, pp. 546-549, September 26-28, 1989.
168. B. Yegnanarayana, C. Chandra Sekhar, G. V. Ramana Rao, P. Eswar, and M. Prakash, **A continuous speech recognition system for Indian languages**, *Proc. Regional workshop on Computer Processing of Asian Languages*, Bangkok, Thailand, pp. 347-356, September 26- 28, 1989.
169. S. R. Rajesh Kumar, R. Sriram, and B. Yegnanarayana, **A new approach to develop a Text-to-Speech conversion system for Indian Languages**, *Proc. Regional Workshop on Computer Processing of Asian Languages*, Bangkok, Thailand, pp. 327-336, September 26-28, 1989.
170. Hema A. Murthy, K. V. Murthy, and B. Yegnanarayana **Formant extraction from Fourier transform phase**, *IEEE Int. Conference on Acoustics Speech & Signal Processing, ICASSP-89*, Glasgow, Scotland, pp. 454-457, May 23-26, 1989.
171. G. Duncan, B. Yegnanarayana, and Hema A Murthy, **A nonparametric method of formant estimation using group delay spectra**, *IEEE Int. Conference on Acoustics Speech & Signal Processing, ICASSP-89*, Glasgow, Scotland pp. 572-575, May 23-26, 1989.
172. K. V. Madhu Murthy and B. Yegnanarayana, **Composite signal decomposition using group delay functions**, *Int. Conf. on Communication Systems, ICCS'88*, Singapore, pp. 1036-1040, Oct.31-Nov. 3, 1988.
173. B. Yegnanarayana and Hema A. Murthy, **Formant extraction using group delay function**, *Proc. Int. Workshop on Speech Processing*, TIFR, Bombay, Oct 31- Nov.1, 1988.
174. B. Yegnanarayana, C. P. Mariadassou, and Pramod Saini, **Studies on reducing the receiver complexity in acoustic imaging**, *EUSIPCO-88*, Grenoble, France, vol.1, pp. 267-270, September 5-8, 1988.
175. B. Yegnanarayana, G. Duncan, and Hema A. Murthy., **Improving formant extraction from speech using minimum-phase group delay spectra**, *EUSIPCO-88*, Grenoble, France, pp. 447-450, September 5-8, 1988.
176. Hema A. Murthy, A. A. Babu, B. Yegnanarayana, and K.V.Madhu Murthy, **Speech coding using Fourier transform phase**, *Proc. EUSIPCO-88*, Grenoble, France, vol.2, pp. 879-882, September 1988.
177. C. Chandra Sekhar, Sanjay Kumar Singh, P. Eswar, and B. Yegnanarayana, **Feature spotting approach for speech signal-to-symbol transformation for continuous speech in Indian languages**, *SPEECH-88*, Edinburgh, U.K., August 22-26, 1988.
178. B. Yegnanarayana, C. P. Mariadassou, and Pramod Saini, **Image reconstruction from sensor array data**, *Proc. Indo-US Workshop on Systems & Signal Processing*, Bangalore, pp. 111, January 8-12, 1988.

179. P. Eswar, S. K. Gupta, C. Chandra Sekhar, B. Yegnanarayana, and K. Nagamma Reddy, **An acoustic-phonetic expert for analysis and processing of continuous speech in Hindi**, *Proc. European Conference on Speech Technology*, Edinburgh, U.K., pp. 369-372, September 1987.
180. R. Sundar, S. Raman, and B. Yegnanarayana, **Studies on speech recognition of Hindi stop consonants**, *Proc. European Conference on Speech Technology*, Edinburgh, U.K., vol.1, pp. 95-98, September 1987.
181. B. Yegnanarayana, K. V. Madhu Murthy, and Hema A. Murthy, **Processing of noisy speech using partial phase**, *Proc. European Conference on Speech Technology*, Edinburgh, U.K., vol.1, pp. 203-206, September 1987.
182. B. Yegnanarayana, S. Tanveer Fathima, and Hema A. Murthy, **Reconstruction from Fourier transform phase with applications to speech analysis**, *ICASSP-87*, Dallas, Texas, USA, vol.1 pp. 301-304, April 6-9, 1987.
183. B. Yegnanarayana, **Signal processing through group delay functions**, *EUSIPCO-86*, The Hague, The Netherlands, pp. 101- 104, September 2-5, 1986.
184. B. Yegnanarayana and S. Tanveer Fathima, **An algorithm for bandlimited signal interpolation**, *Proc. IEEE Int. Conference Acoust., Speech and signal Processing, ICASSP-86*, Japan, pp. 1617-1680, April 8-11, 1986.
185. B. Yegnanarayana, S. Raman, and R. Sundar, **Signal dependent analysis for speech recognition**, *Proc. Int. Conference on Speech Input/Output Techniques and Application*, London, U.K., pp. 31-36, March 24-26, 1986.
186. Joy A. Thomas, B. Yegnanarayana, Raghuram Karinti, and V. Venkateswar, **Processing of noisy speech using group delay functions**, *Proc. Int. Conference on Acoustics Speech and Signal Processing, ICASSP-85*, Tampa, Florida, USA, pp. 1-4, March 26-29, 1985.
187. D. G. Childers, B. Yegnanarayana, and Ke Wu, **Voice conversion factors responsible for quality**, *Proc. Int. Conference of Acoustics Speech and Signal Processing, ICASSP-85*, Tampa, Florida, USA, March 26-29, 1985.
188. A. S. Ananth, D. G. Childers, and B. Yegnanarayana, **Measuring source-tract interaction from speech**, *Proc. IEEE Int. Conference on Acoustics, Speech and Signal Processing, ICASSP-85*, Tampa, Florida, USA, March 26-29, 1985.
189. S. Raman, B. Yegnanarayana, R. Sundar, and V. V. Chandrashekar, **Knowledge-based signal processing for recognition of Hindi stop consonants**, *Proc. Int. Conf. on Computer Systems and Signal Processing*, Indian Institute of Science, Bangalore, India, pp. 896-890, December 9-12, 1984.
190. B. Yegnanarayana, J. Sreekanth, and Anand Rangarajan, **Group delay processing of signals**, *Proc. Int. Conf. on Computer Systems and Signal Processing*, Indian Institute of Science, Bangalore, India, pp. 349-353, December 9-12, 1984.
191. B. Yegnanarayana, J. M. Naik, and D. G. Childers, **Voice simulation: factors affecting quality and naturalness**, *Proc. Conf. Of the Association for Computational Linguists, COLING 84*, Stanford, California, USA, July 1984.

192. B. Yegnanarayana, **Significance of group delay functions in signal processing**, *Proc. IEEE Symposium on Circuits and Systems, ISCAS-84*, Montreal, Canada, May 7-10, 1984.
193. B. Yegnanarayana, **Representation and processing of signals in the group delay domain**, *Proc. MICCASSP-84*, Osmania University, Hyderabad, pp. A.1-A.10, 1984.
194. B. Yegnanarayana and Sarat Chandran, **Performance of isolated word recognition system for degraded speech**, *Proc. IEEE Int. Conf. on Acoustics speech and Signal Processing, ICASSP-84*, San Diego, California, USA, pp. 9.9.1-9.9.4, March 19-21, 1984.
195. S. Raman and B. Yegnanarayana, **Isolated word speech recognition system for confusable vocabulary**, *Proc. IEEE Int. Conf. on Acoustics speech and Signal Processing, ICASSP-84*, San Diego, California, USA, pp. 17.5.1-17.5.4, March 19-21, 1984.
196. B. Yegnanarayana, T. Sreekumar, and S. Raman, **Signal dependent matching for speech recognition**, *Proc. IEEE Int. Conf. on System, Man and Cybernetics*, Bombay, India, pp.150-154, Dec.29-Jan.4, 1983-84.
197. B. Yegnanarayana, G. Subramani, and S. Raman, **Signal to symbol transformation for isolated word speech recognition systems**, *Proc. IEEE Int. Conf. On Systems, Man and Cybernetics*, Bombay, India, pp. 345-349, Dec.29-Jan.4, 1983-84.
198. B. Yegnanarayana and A. Dhayalan, **Noniterative technique for minimum phase signal reconstruction from phase or magnitude**, *Proc. IEEE Int. Conf. on Acoustics Speech and Signal Processing, ICASSP-83*, Boston, Massachusetts, USA, pp. 639-643, April 14-16, 1983.
199. B. Yegnanarayana, **Pole-zero representation of cepstrally smoothed speech spectra**, *Proc. IEEE Int. Conf. on Acoustics, Speech and Signal Processing, ICASSP-81*, Atlanta, Georgia, USA, Mar.30-Apr.1, 1981.
200. B. Yegnanarayana, **Pole-zero decomposition - A new technique for speech analysis**, *Proc. Int. Symposium on Speech Processing*, TIFR, Bombay, pp. 16.1-16.19, July 1980.
201. B. Yegnanarayana, **Focus of attention on problems in speech recognition**, *Proc. Int. Symposium on Speech Processing*, TIFR, Bombay, India, pp. 15.1-15.30, July 1980.
202. B. Yegnanarayana, **Pole-zero decomposition: A new technique for design of digital filters**, *Proc. IEEE Int. Conf. of Acoustics, Speech and Signal Processing, ICASSP-80*, Denver, Colorado, USA, April 9-11, 1980.
203. B. Yegnanarayana, **Speech analysis by pole-zero decomposition**, **ASA-50, Speech Communication Preprint Experiment**, *97th Meeting of Acoustical Society of America*, Cambridge, MA, USA, pp. 233-236, 1979.
204. B. Yegnanarayana and D. Raj Reddy, **A distance measure based on the derivative of linear prediction phase spectrum**, *Proc. IEEE Int. Conf. on Acoustics, Speech and Signal Processing, ICASSP-79*, pp. 744-747, 1979.
205. T. V. Anathapadmanabha, and B. Yegnanarayana, **Epoch extraction from linear prediction residual**, *Proc. IEEE Int. Conf. on Acoustics, Speech and Signal Processing, ICASSP-78*, Tulsa, Oklahoma, USA, pp. 8-11, April 10-12, 1978.

206. B. Yegnanarayana, V. V. S. Sarma, and D. Venugopal, **Studies on speaker recognition using a Fourier analyzer system**, Proc. IEEE Int. Conf. on Acoustics, Speech and Signal Processing, ICASSP-77, Hartford, Connecticut, USA, 1977.
207. T. V. Ananthapadmanabha and B. Yegnanarayana, **Zero phase in verse filtering for extraction of source characteristics**, *Proc. IEEE Int. Conf. on Acoustics, Speech and Signal Processing*, ICASSP-77, Hartford, Connecticut, USA, pp. 336-339, 1977.
208. B. Yegnanarayana and T. K. Raja, **Performance of linear prediction analysis on speech with additive noise**, *Proc. IEEE Intl. Conf. on Acoustics, Speech and Signal Processing*, ICASSP-77, Hartford, Connecticut, USA, 1977.
209. V. V. S. Sarma and B. Yegnanarayana, **Cascade realization of digital inverse filter for extracting speaker dependent features**, *Proc. IEEE Int. Conf. on Acoustics, Speech and Signal Processing*, ICASSP-76, Philadelphia, Pennsylvania, USA, pp. 723-726, 1976.
210. B. Yegnanarayana, **Effect of noise and distortion in speech on parametric extraction**, *Proc. IEEE Int. Conf. on Acoustics, Speech and Signal Processing*, ICASSP-76, Philadelphia, Pennsylvania, USA, pp. 336-339, 1976.

Publications in National Conferences

1. S. Rajendran, K. Sreenivasa Rao, B. Yegnanarayana and K. Nagamma Reddy, **Syllable duration in Broadcast news in Telugu: A preliminary study**, *Proc. National conference on Language Technology Tools: Implementation of Telugu/Urdu*, Hyderabad University, Hyderabad, October 8-10, 2003.
2. S. R. Mahadeva Prasanna, Jinu Mariam Zachariah and B. Yegnanarayana, **Begin-End detection using VOPs**, National workshop on speech processing, TIFR, Mumbai, January 9-11, 2003.
3. Vinod Pathangay, B. Yegnanarayana, **Use of vertical face profiles for text-dependent person authentication**, *The IIIrd Indian Conference on Vision Graphics and Image Processing*, Ahmedabad, December 16-18, 2002.
4. B. S. Venkatesh, S. Palanivel, B. Yegnanarayana, **Face detection and recognition in an image sequence using eigen edginess**, *The IIIrd Indian Conference on Vision Graphics and Image Processing*, Ahmedabad, December 16-18, 2002.
5. Gaurav Aggarwal, Anvita Bajpai, A. Nayeemulla Khan and B. Yegnanarayana, **Exploring Features for Audio Indexing**, in *IRISS*, Indian Institute of Science, Bangalore, March 2002.
6. A. Nayeemulla Khan and B. Yegnanarayana, **Development of a speech recognition system for tamil for small restricted tasks**, *Proc. of National Conference on Communication*, Kanpur, January 2001.
7. P. Kiran Kumar, Sukhendu Das and B. Yegnanarayana, **One dimensional processing for edge detection using Hilbert transform**, *Indian Conference on computer vision graphics and image processing*, Bangalore, December 20-22, 2000.
8. D. Devaraj and B. Yegnanarayana, **A combined genetic algorithm approach for optimal power flow**, *Eleventh National Power Systems Conference*, Bangalore, pp. 524-528, December 2000.
9. A. V. N. S. Anjani and B. Yegnanarayana, **An Autoregressive model based approach for DTMF detection**, *Proc. National Conference on Communication*, Delhi, January 29-30, 2000.
10. Hemant Misra, Shajith Iqbal and B. Yegnanarayana, **Spectral mapping as a feature for speaker recognition**, *Proc. National Conference on Communication*, Kharagpur, pp. 151-156, January 29-31, 1999.
11. Anitha Mary Jacob and B. Yegnanarayana, **Neural network models for processing degraded speech**, *Proc. Artificial Neural Networks and Cognitive Systems*, Cochin, pp. 49-51, September 23-25, 1998.
12. Anitha Mary Jacob and B. Yegnanarayana, **Feed forward neural network models for processing encrypted speech**, *Proc. National Seminar on Cryptology*, DRDO, Delhi, pp. F1-F8, July 9-10, 1998.
13. B. Yegnanarayana and P. Satyanarayana Murthy, **New directions in speech processing - A review**, *Proc. National Conference on Communications*, Madras, pp. 169-174, Jan.31- Feb.2, 1997.

14. P. P. Raghu, R. Poongodi and B. Yegnanarayana, **Unsupervised classification of textures using deterministic relaxation neural network**, *Proc. ICAUTO-95*, Indore, pp. 317-320, December 11-14, 1995.
15. N. Sudha, C. Chandra Sekhar, and B. Yegnanarayana, **Automatic classification of sonar targets using artificial neural networks**, *Proc. National Conf. on Neural Networks and Fuzzy Systems*, Anna University, Madras, pp. 1-7, March 16-18, 1995.
16. P. P. Raghu, R. Poongodi, and B. Yegnanarayana, **Supervised texture classification using counter propagation network with SOM principles**, *Proc. National Conf. on Neural Networks and Fuzzy Systems*, Anna University, Madras, pp. 8-15, March 16-18, 1995.
17. C. Chandra Sekhar, K. Sakthivel, and B. Yegnanarayana, **Neural network based approaches for recognition of stop consonant owel (SCV) segments in continuous speech**, *Proc. National Conf. on Neural Networks and Fuzzy Systems*, Anna University, Madras, pp. 16-22, March 16-18, 1995.
18. Manish Sarkar, B. Yegnanarayana, and Deepak Khemani, **Application of neural network in contract bridge bidding**, *Proc. National Conf. on Neural Networks and Fuzzy Systems*, Anna University, Madras, pp. 144-151, March 16-18, 1995.
19. P. P. Raghu, R. Poongodi, and B. Yegnanarayana, **Texture classification using self-organizing map with a supervised labelling mechanism**, *Proc. National Symposium on Advances in Computer Application and Instrumentation, (SACAI-95)*, Indira Gandhi Centre for Atomic Research, Kalpakkam, pp. T5.1.1-T5.1.4, January 1995.
20. P. P. Raghu, H. M. Chouhan, and B. Yegnanarayana, **Multispectral texture classification using neural networks**, *Proc. National Conference on Neural Networks*, Anna University, Madras, India, pp. 1-10, March 18-19, 1993.
21. N. Sudha, H. M. Chouhan, and B. Yegnanarayana, **Sonar target recognition: A neural network approach**, *Symposium on Ocean Electronics*, Cochin, December 1993.
22. A. S. Madhukumar and B. Yegnanarayana, **A speaker recognition system based on intonation knowledge**, *Discussion Meeting on Recent Advances in Signal Processing and Communications*, IISc, Bangalore, pp. 41-45, January 1993.
23. V. R. Ramachandran and B. Yegnanarayana, **Coarticulation rule for a text-to-speech system for Hindi**, *Workshop on Speech Technology*, IIT Madras, pp. 211-219, December 1992.
24. B. Yegnanarayana, S. Rajendran, S. R. Rajesh Kumar, V. R. Ramachandran, and A. S. Madhukumar, **Knowledge sources for a text-to-speech system in Hindi**, *Regional Workshop on Computer Processing of Asian Languages*, Indian Institute of Technology, Kanpur, pp. 233-242, March 1992.
25. B. Yegnanarayana, **Processing of noisy speech using group delay functions**, *Proc. Workshop on Speech Processing*, TIFR, Bombay, December 1990.
26. C. Chandra Sekhar, G. V. Ramana Rao, P. Eswar, J. Saikumar, N. Ramasubramaniam, R. Sundar, and B. Yegnanarayana, **Development of speech-to-text system for Indian languages**, *Frontiers in knowledge-based computing*, *Proc. KBCS'90*, Pune, pp. 457-466, December 1990.

27. B. Yegnanarayana, Hema A Murthy, R. Sundar, V. R. Ramachandran, A. S. Madhukumar, N. Alwar, and S. Rajendren, **Development of a text-to-speech system for Indian languages**, *Frontiers in knowledge-based computing*, *Proc. KBCS'90*, Pune, pp. 467-476, December 1990.
28. B. Yegnanarayana and Hema A. Murthy, **Spectrum estimation using Fourier transform phase**, *Proc. Workshop on Signals, Systems, Communications and Networking*, Bangalore, pp. 44-53, July 1990.
29. B. Yegnanarayana and Hema A. Murthy, **Formant extraction using group delay function**, *Proc. Int. Workshop on Speech Processing*, TIFR, Bombay, Oct 31- Nov.1, 1988.
30. B. Yegnanarayana, **Voice input/output systems for Indian languages**, *Proc. 23rd Annual Convention of the Computer Society of India, (CSI-88)*, Madras, pp. 3-24, January 6-9, 1988.
31. B. Yegnanarayana, Joy A. Thomas, Raghuram Karinithi, and Rajesh Gupta, **New methods of processing noisy speech**, *Proc. All India Symposium on Communication*, Indian Institute of Science, Bangalore, India, pp. 66-71, August 1984.
32. B. Yegnanarayana and Aravind Raghunathan, **Image processing in the phase domain**, *Proc. National Conf. on Image Signal Processing*, IIT Madras, India, January 1984.
33. B. Yegnanarayana, **Representation of signals through group delay functions**, *Proc. Seminar on Signal Processing*, NPOL, Cochin, pp. 2B.1-2B.4, November 1983.
34. V. V. S. Sarma and B. Yegnanarayana, **Speech recognition in speech research**, *Proc. Recent development in pattern recognition and digital techniques*, ISI, Calcutta, pp. 345-357, January 1977.
35. B. Yegnanarayana and V.V. S. Sarma, **Speaker recognition from spoken digits**, *Proc. Recent Developments in Pattern Recognition and Digital Techniques*, ISI, Calcutta, pp. 337-344, January 1977.
36. B. Yegnanarayana and T. V. Ananthapadmanabha, **Speech signal processing techniques for study of voice disorder**, *Proc. All India Symposium on Biomedical Engineering*, Indian Institute of Science, Bangalore, December 1976.