

## **PUBLICATIONS**

### **Book Chapters**

#### **2011**

1. Text independent emotion recognition using spectral features, Rahul Chauhan, Jainath Yadav, S. G. Koolagudi and K. Sreenivasa Rao, Communications in Computer and Information Science (CCIS): Contemporary Computing, Vol. 168, Part-2, pp. 359-370, Springer, 2011.
2. Segment Specific Concatenation Cost for Syllable Based Bengali TTS, N. P. Narendra and K. Sreenivasa Rao, Communications in Computer and Information Science (CCIS): Contemporary Computing, Vol. 168, Part-2, pp. 371-382, Springer, 2011.
3. Effect of Noise on Recognition of Consonant-Vowel (CV) Units, Anil Kumar Vuppala, K. Sreenivasa Rao and Saswat Chakrabarti, Communications in Computer and Information Science (CCIS): Contemporary Computing, Vol. 168, Part-2, pp. 191-200, Springer, 2011.
4. Effect of Noise on Vowel Onset Point Detection, Anil Kumar Vuppala, Jainath Yadav, K. Sreenivasa Rao and Saswat Chakrabarti, Communications in Computer and Information Science (CCIS): Contemporary Computing, Vol. 168, Part-2, pp. 201-211, Springer, 2011.
5. Robust speaker recognition in noisy environments: Using dynamics of speaker-specific prosody, Shashidhar G Koolagudi, K. Sreenivasa Rao, Ramu Reddy, Anil Kumar Vuppala and Saswat Chakrabarti, Chapter 8, pp: 183-204, in Springer book "Forensic speaker recognition", 2011.

#### **2010**

6. Emotion Classification Based on Speaking Rate, Shashidhar G. Koolagudi, Sudhin Ray and K. Sreenivasa Rao, Communications in Computer and Information Science (CCIS), (Published by: Springer, 2010)
7. Effect of speech coding on recognition of Consonant-Vowel (CV) units, Anil Kumar Vuppala, K. Sreenivasa Rao and Saswat Chakrabarti, Communications in Computer and Information Science (CCIS), (Published by: Springer, 2010)

#### **2009**

8. Unit selection using linguistic, prosodic and spectral distance for developing text-to-speech system in Hindi, K. Sreenivasa Rao, Shashidhar G Koolagudi, Sudhamay Maity and Amol Taru, Pattern Recognition and Machine Intelligence (LNCS), (Published by: Springer, 2009)

9. Exploring Speech Features for Classifying Emotions Along Valence Dimension, Shashidhar G. Koolagudi and K. Sreenivasa Rao, Pattern Recognition and Machine Intelligence (LNCS), (Published by: Springer, 2009)
10. IITKGP-SESC : Speech database for emotion analysis, Shashidhar G. Koolagudi, Vuppala Anil Kumar, Saswat Chakrabarti, Sudhamay Maity and K. Sreenivasa Rao, Contemporary computing (CCIS), pp. 485-492. (Published by: Springer, 2009)

## 2008

11. Modeling supra-segmental features of syllables using neural networks, K. Sreenivasa Rao in Speech, Audio, Image and Biomedical signal processing using neural networks, pp. 71-95. (Published by: Springer, 2008).

## 2007

12. Voice Transformation by Mapping the Features at Syllable Level, K. Sreenivasa Rao, R. H. Laskar and Shashidhar G. Koolagudi in Lecture Notes in Computer Science, Pattern Recognition and Machine Intelligence, pp. 479-486. (Published by: Springer, 2007).

## 2004

13. Two-stage duration model for Indian languages using neural networks, K. Sreenivasa Rao and B. Yegnanarayana, in Lecture Notes in Computer Science, Neural Information Processing, pp. 1179-1185 (Published by: Springer, 2004).

## Refereed Journals

1. K. Sreenivasa Rao and B. Yegnanarayana, "Prosody modification using instants of significant excitation," *IEEE Trans. Speech and Audio Processing*, vol. 14, pp. 972-980, May 2006.
2. K. Sreenivasa Rao and B. Yegnanarayana, "Modeling durations of syllables using neural networks", *Computer Speech and Language*, Elsevier, Vol. 21, pp. 282-295, Apr. 2007.
3. 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, pp. 762-765, Oct. 2007.
4. K. Sreenivasa Rao and B. Yegnanarayana, Intonation modeling for Indian languages, *Computer Speech and Language*, Elsevier, Vol. 23, pp. 240-256, Apr. 2009.
5. K. Sreenivasa Rao and B. Yegnanarayana, Duration modification using Glottal Closure Instants and Vowel Onset Points, *Speech communication*, Elsevier, Vol. 51, pp. 1263-1269, Dec. 2009

6. K. Sreenivasa Rao, Voice Conversion by Mapping the Speaker-specific features using Pitch Synchronous Approach, *Computer Speech and Language*, Elsevier, Vol. 24, pp. 474-494, July 2010.
7. K. Sreenivasa Rao, Application of Prosody models for Developing Speech systems in Indian languages, *International Journal of Speech Technology*, Springer, Vol. 14, pp. 19-33, 2011.
8. Shashidhar G Koolagudi and K. Sreenivasa Rao, Two Stage Emotion Recognition Based on Speaking Rate, *International Journal of Speech Technology*, Springer, Vol. 14, pp. 35-48, 2011.
9. K. Sreenivasa Rao and Shashidhar G Koolagudi, Identification of Hindi Dialects and Emotions using Spectral and Prosodic features of Speech, *Journal of Systemics, Cybernetics and Informatics*, Vol. 9, No. 4, pp. 24-33, 2011.
10. K. Sreenivasa Rao and Shashidhar G Koolagudi, Selection of suitable features for modeling the durations of syllables, *Journal of Software Engineering and Applications*, Vol. 3, pp. 1107-1117, Dec. 2010.
11. K. Sreenivasa Rao, Real time prosody modification, *Journal of Signal and Information Processing*, Vol. 1, pp. 50-62, Nov. 2010.
12. Anil Kumar Vuppala, K. Sreenivasa Rao, Saswat Chakrabarti, P Krishnamoorthy, and S R M Prasanna "Recognition of Consonant-Vowel (CV) Units under Background Noise using Combined Temporal and Spectral Preprocessing", *International Journal of Speech Technology*, Springer, Vol. 14, No.3, pp. 259-272, 2011.
13. Anil Kumar Vuppala, K. Sreenivasa Rao and Saswat Chakrabarti, "Improved consonant-vowel recognition for low bit-rate coded speech", *International Journal of Adaptive control and Signal processing*, Wiley. (Accepted, DOI 10.1002/acs.1286)
14. Anil Kumar Vuppala, K. Sreenivasa Rao and Saswat Chakrabarti, "Improved Speaker Identification in Wireless Environment", *International Journal of Signal and Imaging Systems Engineering*, Inderscience. (Accepted)
15. K. Sreenivasa Rao, "Role of Neural network models for developing speech systems", *SADHANA*, Academy Proceedings in Engineering Sciences, Indian Academy of Sciences, Vol. 36, Part-5, pp. 783-836, Springer, Oct. 2011.
16. K. Sreenivasa Rao, V. K. Saroj, Sudhamay Maity and Shashidhar G Koolagudi, Recognition of emotions from video using neural network models, *Expert systems and applications*, Elsevier, Vol. 38, No.10, pp. 13181-13185, Sep. 2011.
17. N. P. Narendra, K. Sreenivasa Rao, Krishnendu Ghosh, Ramu Reddy Vempada and Sudhamay Maity "Development of Syllable-based Text-to-Speech Synthesis System in Bengali", *International Journal of Speech Technology*, Springer, Vol. 14, No.3, pp. 167-181, 2011.
18. Shashidhar G Koolagudi and K. Sreenivasa Rao, Emotion Recognition from Speech : A Review, *International Journal of Speech Technology*, Springer (accepted).
19. Anil Kumar Vuppala, K. Sreenivasa Rao and Saswat Chakrabarti, "Spotting and Recognition of Consonant-Vowel Units from Continuous Speech using Accurate Vowel Onset Points",

20. Anil Kumar Vuppala, K. Sreenivasa Rao and Saswat Chakrabarti, "Improved Vowel Onset Point Detection using Epoch Intervals", *International Journal of Electronics and Communications*, Elsevier (Accepted)

### **Refereed International Conferences**

#### **2012**

1. K. Sreenivasa Rao, Ketan Pachpande, V. Ramu Reddy and Sudhamay Maity, Segmentation of TV Broadcast News Using Speaker Specific Information, NCC-2012, IIT Kharagpur, Kharagpur, India, Feb. 2012.
2. Ramu Reddy Vempada and K. Sreenivasa Rao, Modeling the Intensity of Syllables Using Classification and Regression Trees, NCC-2012, IIT Kharagpur, Kharagpur, India, Feb. 2012.
3. Sudhamay Maity, Anil Kumar Vuppala, K. Sreenivasa Rao and Dipanjan Nandi, IITKGP-MLILSC Speech Database for Language Identification, NCC-2012, IIT Kharagpur, Kharagpur, India, Feb. 2012.
4. Krishnendu Ghosh and K. Sreenivasa Rao, Subword based Approach for Grapheme-to-Phoneme Conversion in Bengali Text-to-Speech Synthesis System, NCC-2012, IIT Kharagpur, Kharagpur, India, Feb. 2012.
5. Ramu Reddy Vempada, Siva Ayyappa Kumar B and K. Sreenivasa Rao, Characterization of Infant Cries using Spectral and Prosodic features, NCC-2012, IIT Kharagpur, Kharagpur, India, Feb. 2012.

#### **2011**

1. Anil Kumar Vuppala, Jainath Yadav, K. Sreenivasa Rao and Saswat Chakrabarti, Effect of Low Bit Rate Speech Coding on Epoch Extraction, ICDECOM, BIT-Mesra, Ranchi, Feb. 2011.
2. Shashidhar G. Koolagudi, Ramu Reddy, Jainath Yadav and K. Sreenivasa Rao, IITKGP-SEHSC: Hindi speech corpus for emotion analysis, ICDECOM, BIT-Mesra, Ranchi, Feb. 2011.
3. Shashidhar G. Koolagudi, Nitin Kumar and K. Sreenivasa Rao, Speech emotion recognition and verification using segmental level prosodic analysis, ICDECOM, BIT-Mesra, Ranchi, Feb. 2011.
4. N. P. Narendra and K. Sreenivasa Rao, Syllable specific target cost formulation for syllable based text-to-speech synthesis in Bengali, 2<sup>nd</sup> Int. Conf. Computer and Communication Technology (ICCT), pp. 180-184, Allahabad, India, September 2011.
5. Ramu Reddy Vempada and K. Sreenivasa Rao, Intonation modeling using FFNN for syllable based Bengali text to speech synthesis, 2<sup>nd</sup> Int. Conf. Computer and Communication Technology (ICCT), pp. 334-339, Allahabad, India, September 2011.

6. Krishnendu Ghosh and K. Sreenivasa Rao, Memory-based Data-driven Approach for Grapheme to Phoneme. Conversion in Bengali Text to Speech Synthesis System, INDICON-2011, Hyderabad, India, Dec. 2011.
7. Narendra N. P., K. Sreenivasa Rao, Ramu Reddy Vempada, Krishnendu Ghosh and Sudhamay Maity, Development of Bengali screen reader using Festival speech synthesizer, INDICON-2011, Hyderabad, India, Dec. 2011.
8. Krishnendu Ghosh, Ramu Reddy Vempada and K. Sreenivasa Rao, *Phrase Break Prediction for Bengali Text to Speech Synthesis System*, International Conference on Natural Language Processing (ICON), Chennai, India, Dec. 2011.

## 2010

1. Krishnendu Ghosh, Shashidhar G Koolagudi, Sudhamay Maity, Ramu Reddy, Narendra and K. Sreenivasa Rao, Grapheme to phoneme conversion in Bengali for Festival based TTS framework, *International Conference on Natural Language Processing (ICON)*, IIT Kharagpur, Kharagpur, Dec. 2010.
2. Shashidhar G.Koolagudi and K. Sreenivasa Rao, Real life emotion classification using VOP and pitch based spectral features, *IEEE INDICON*, Kolkata, Dec. 2010.
3. Anil Kumar Vuppala, K. Sreenivasa Rao and Saswat Chakrabarti, "Effect of speech coding on speaker identification", *IEEE INDICON*, Kolkata, Dec 2010
4. Anil Kumar Vuppala, K. Sreenivasa Rao and Saswat Chakrabarti, Two-stage isolated consonant-vowel (CV) unit recognition in Indian languages, *ICCCD*, IIT Kharagpur, Kharagpur, Dec. 2010.
5. Hema A Murthy, Ashwin Bellur, Vinodh Viswanath, Badri Narayanan, Anila Susan, G Kasturi, K. Sreenivasa Rao, Sudhamay Maity, N. P. Narendra, Ramu Reddy, Krishnendu Ghosh, K. G. Sulochana, E. L. Abhilash, T. Sajini, M. Sasikumar, Bira Chandra Singh, Pranav Kumar, P. Vijayaditya, E. Veera Raghavendra and Kishore Prahlad, Building Unit Selection Speech Synthesis in Indian languages: An Initiative by an Indian Consortium, *COCOSDA 2010*, Kathmandu, Nepal, Nov 2010.
6. K. Sreenivasa Rao, Anil Kumar Vuppala, Saswat Chakrabarti and Leena Dutta, "Robust Speaker Recognition on Mobile Devices", *IEEE International Conference on Signal Processing and Communication (SPCOM)*, IISC Bangalore, India, July 2010.
7. Shashidhar G. Koolagudi, Ramu Reddy and K. Sreenivasa Rao, "Emotion Recognition from Speech Signal using Epoch Parameters", *IEEE International Conference on Signal Processing and Communication (SPCOM)*, IISC Bangalore, India, July 2010.
8. K. Sreenivasa Rao, Saurav Nandy and Shashidhar G Koolagudi, Identification of Hindi Dialects using Speech, *14<sup>th</sup> World Multiconference on Systemics, Cybernetics and Informatics (WMSCI 2010)*, Orlando, USA, June 2010
9. K. Sreenivasa Rao, V K Saroj, Sudhamay Maity and Shashidhar G Koolagudi, Recognition of Emotions from Video, *14<sup>th</sup> World Multiconference on Systemics, Cybernetics and Informatics (WMSCI 2010)*, Orlando, USA, June 2010

10. K. Sreenivasa Rao, Ramu Reddy, Sudhamay Maity and Shashidhar G. Koolagudi, Characterization of Emotions using the Dynamics of Prosodic Features, *Int. Conf. on Speech Prosody*, Chicago, USA, May 2010.
11. S. R. M. Prasanna, D. Govind, K. Sreenivasa Rao and B. Yegnanarayana, Fast Prosody Modification using Instants of Significant Excitation, *Int. Conf. on Speech Prosody*, Chicago, USA, May 2010.
12. Anil Kumar Vuppala, Saswat Chakrabarti, and K. Sreenivasa Rao, Feature mapping using neural network models for coded speech recognition, *14th Int. Conf. Cognitive and Neural systems (ICCNS 2010)*, Boston, USA, May 2010.
13. K. Sreenivasa Rao, Anil Kumar Vuppala, Sudhin Ray, and Shashidhar G. Koolagudi, Feature mapping using neural network models for coded speech recognition, *14th Int. Conf. Cognitive and Neural systems (ICCNS 2010)*, Boston, USA, May 2010.
14. K. Sreenivasa Rao, Anil Kumar Vuppala, and Shashidhar G. Koolagudi, Neural network models for emotion recognition using glottal pulse characteristics, *14th Int. Conf. Cognitive and Neural systems (ICCNS 2010)*, Boston, USA, May 2010.
15. K. Sreenivasa Rao, Jainath Yadav, Anil Kumar Vuppala, and Shashidhar G. Koolagudi, Two stage neural network model for recognition of Indian languages from speech, *14th Int. Conf. Cognitive and Neural systems (ICCNS 2010)*, Boston, USA, May 2010.
16. Sabin Kafley, Anil Kumar Vuppala, Arun Chauhan and K. Sreenivasa Rao, Continuous digit recognition in mobile environment, *IEEE TechSym 2010*, IIT Kharagpur, Kharagpur, April 2010.
17. Arun Chauhan, Shashidhar G. Koolagudi, Sabin Kafley and K. Sreenivasa Rao, Emotion recognition using LP residual, *IEEE TechSym 2010*, IIT Kharagpur, Kharagpur, April 2010.

## 2009

1. Anil Kumar Vuppala and K. Sreenivasa Rao, Neural Network Models for Speech Recognition in Mobile Environments, *13<sup>th</sup> Int. Conf. on Cognitive and Neural systems*, Boston, MA, USA, May 2009.
2. Suparnakanti Das, Sudhamay Maity, K. Sreenivasa Rao and Pabitra Mitra, Strategies for selecting optimal text for Bengali ASR system, *13-th International Conference on Speech and Computer (SPECOM'2009)*, St. Petersburg, Russia, June, 2009.
3. K. Sreenivasa Rao, S. R. M. Prasanna and T. Vidya Sagar, Significance of Word and Syllable level Information for Expressive speech processing, submitted to *7<sup>th</sup> International Conference on Advances in Pattern Recognition*, Kolkata, India, Feb. 2009.
4. Shashidhar G. Koolagudi, Sourav Nandi and K. Sreenivasa Rao, Spectral Features for Emotion Recognition, *IEEE International Advance Computing Conference (IACC 2009)*, Patiala, India, Mar. 2009.

## 2008

1. Shashidhar G. Koolagudi and K. Sreenivasa Rao, Neural Network Models for Capturing

Prosodic Knowledge for Emotion Recognition, *12<sup>th</sup> Int. Conf. on Cognitive and Neural systems*, Boston, MA, USA, May 2008.

## 2007

1. K. Sreenivasa Rao and Shashidhar G. Koolagudi, Transformation of speaker characteristics in speech using support vector machines, *15<sup>th</sup> International Conference on Advanced Computing & Communication (ADCOM-2007)*, IIT Guwahati, Guwahati, India, Dec 2007.
2. K. Sreenivasa Rao, S. R. M. Prasanna and T. Vidya Sagar, Emotion Recognition using Multilevel Prosodic Information, *Workshop on Image and Signal Processing (WISP-2007)*, IIT Guwahati, Guwahati, India, Dec 2007.

## 2006

1. T. Vidya Sagar, K. Sreenivasa Rao, S. R. M. Prasanna and S. Dandapat, "Characterization and Incorporation of emotions in speech", *IEEE INDICON-2006*, IIT Delhi, Delhi, India, Sep. 2006.
2. K. Sreenivasa Rao and B.Yegnanarayana, "Voice conversion by prosody and vocal tract modification", *9<sup>th</sup> IEEE Int. Conf. Information Technology*, Bhubaneswar, Orissa, India, Dec. 2006.

## 2005

1. K. Sreenivasa Rao and B.Yegnanarayana, "Modeling syllable duration in Indian languages using support vector machines", in *Proc. 2nd Int. Conf. Intelligent Sensing and Information Processing(ICISIP-2005)*, Chennai, India, Jan. 2005.
2. L. Mary, K. Sreenivasa Rao and B.Yegnanarayana, "Neural network classifiers for language identification using syntactic and prosodic features", in *Proc. 2nd Int. Conf. Intelligent Sensing and Information Processing(ICISIP-2005)*, Chennai, India, Jan. 2005.

## 2004

1. K. Sreenivasa Rao and B.Yegnanarayana, "Impact of constraints on prosody modeling for Indian languages", in *Proc. 3rd International Conference on Natural Language Processing (ICON-2004)*, Hyderabad, India, Dec. 2004, pp. 225-236.
2. K. Sreenivasa Rao and B.Yegnanarayana, "Neural network models for text-to-speech synthesis", in *Proc. 5th International Conference on Knowledge Based Computer Systems (KBCS-2004)*, Hyderabad, India, Dec. 2004, pp. 520-530.
3. K. Sreenivasa Rao and B.Yegnanarayana, "Intonation modeling for Indian languages", in *Proc. 8th Int. Conf. on Spoken Language Processing (Interspeech-2004)*, Jeju Island, Korea, Oct. 2004, pp. 733-736.
4. L. Mary, K. Sreenivasa Rao, S.V. Gangashetty, and B.Yegnanarayana, "Neural network models for capturing duration and intonation knowledge for language and speaker identification," in *Proc. 8th Int. Conf. on Cognitive and Neural systems*, Boston, MA, USA, May. 2004.

5. K. Sreenivasa Rao and B.Yegnanarayana, ``Modeling syllable duration in Indian languages using neural networks," in *Proc. IEEE Int. Conf. Acoust., Speech Signal Processing*, Montreal, Quebec, Canada, May. 2004.

## 2003

1. K. Sreenivasa Rao, S. V. Gangashetty, and B. Yegnanarayana, ``Duration analysis for Telugu language," in *Proc. Int. Conf. on Natural Language Processing*, Mysore, India, Dec. 2003.
2. S.Rajendran, K. Sreenivasa Rao, B.Yegnanarayana, and K.N. Reddy, ``Syllable duration in broadcast news in Telugu: A preliminary study," in *Proc. National Conf. on Language Technology Tools: Implementation of Telugu/Urdu*, Hyderabad, India, Oct. 2003.
3. S. V. Gangashetty, K. Sreenivasa Rao, A.Nayeemullakhan, C. C. Sekhar, and B.Yegnanarayana, ``Combining evidence from multiple modular networks for recognition of consonant-vowel units of speech," in *Proc. Int. Joint Conf. on Neural Networks*, Portland, Oregon, USA, July 2003.
4. K. Sreenivasa Rao and B.Yegnanarayana, ``Prosodic manipulation using instants of significant excitation," in *Proc. IEEE Int. Conf. Multimedia and Expo*, Baltimore, Maryland, USA, July 2003.
5. K. Sreenivasa Rao, S. V. Gangashetty, and A.Nayeemullakhan, ``Distribution capturing ability of autoassociative neural network models for recognition of consonant-vowel utterances," in *Proc. Int. Conf. on Cognitive and Neural systems*, Boston, MA, USA, May 2003.
6. K. Sreenivasa Rao and B. Yegnanarayana, ``Prosodic Manipulation using Instants of Significant Excitation," in *Proc. Int. Conf. Acoust., Speech Signal processing*, Apr 2003.

## 2002

1. K. Kiran Kumar, K. Sreenivasa Rao, and B. Yegnanarayana, ``Duration Knowledge for Text-to-Speech system for Telugu," in *Proc. Int. Conf. Knowledge based computer systems*, Mumbai, India, Dec 2002.
2. B. Yegnanarayana, S.R. Mahadeva Prasanna, and K. Sreenivasa Rao, ``Speech Enhancement using excitation source information," in *Proc. Int. Conf. Acoust., Speech Signal Processing*, Orlando, FL, USA, May 2002.