

	<p>Name: PRASANNA KUMAR M.K.</p> <p>Designation: ASSISTANT PROFESSOR</p> <p>Qualification: BE, M.Tech., Ph.D.</p> <p>Email-id: (official): prasannamk.tce@bmsce.ac.in</p> <p>Experience: 14 years</p> <p>Teaching experience: 12 years</p> <p>Date of Joining this Institution (BMSCE): 27 -01-2014</p> <p><u>Research Interests:</u></p> <ul style="list-style-type: none"> • Speech Processing • Digital Signal Processing • Blind Source Separation • Single channel speech separation • Voice recognition platforms • Age prediction using speech • Machine Learning
<p>About Your self</p>	<p>Dr. Prasanna Kumar M.K. has received his BE degree from RV College of Engineering, Bangalore in 2005. He obtained his M.Tech. in Digital Electronics and Communication from NMAMIT, Nitte. He was awarded with Ph.D. degree from VTU in 2017 for the thesis titled “Advanced Strategies with Application to Separation of Speech Mixtures”. He has teaching experience of 12 years and industry experience of 2 years. His area of interest includes signals and systems, digital signal processing, digital speech processing, blind source separation, digital communication etc. He has published over 20 papers in peer reviewed Journals & Conferences.</p>
<p>Education:</p>	<p>Doctoral Research: Ph.D. from VTU in 2017 (Speech Processing)</p> <p>Masters: M.Tech. (Digital Electronics & Communication), 2012, NMAMIT, Nitte</p> <p>Bachelors: BE in Electronics & Communication, RVCE, Bangalore , 2005</p>

Publications:

Speech Processing

1. Prasanna Kumar MK ,R Kumaraswamy, Role of Speech Separation in Verifying the Speaker Under Degraded Conditions Using EMD and Hilbert Transform, Proceedings of the International Conference on Paradigms of Communication, Computing and Data Sciences. Algorithms for Intelligent Systems. Springer, Singapore, 1st Jan 2022 (Scopus)
2. Sriram Ravishankar, **Prasanna Kumar MK**, “Empirical performance analysis of speech based age classification”, IEEE Connect 2021, 10TH JULY 2021. (IEEE International conference)
3. **Prasanna Kumar MK**, R Kumaraswamy, “Unsupervised speech separation by detecting speaker changeover points under single channel condition “, International journal of speech technology, Springer, 3rd august 2021, doi.org/10.1007/s10772-021-09875-3.(Scopus, WoS)
4. Prasanna Kumar MK, R Kumaraswamy, “Role of speech separation in verifying the speaker under degraded conditions using EMD and Hilbert Transform”, International conference on Paradigms of communication, computing and data sciences (PCCDS 2021) , NIT, Kurukshetra, 7TH MAY 2021(International conference)
5. Sriram Ravishankar , **Prasanna Kumar M K**, Vinay Vasanth Patage, Sourabh Tiwari, Saksham Goya, “ Prediction of Age from Speech Features Using a Multi-Layer Perceptron Model”, 11th INTERNATIONAL CONFERENCE ON COMPUTING, COMMUNICATION AND NETWORKING TECHNOLOGIES (ICCCNT) , IIT Kharagpur, West Bengal, 2ND July 2020. ISBN 978-1-7281-6852-4(IEEE International conference)
6. Prasanna Kumar M.K and R. Kumaraswamy, “Single-channel speech separation using Combined EMD and speech-specific information”, International Journal of Speech Technology, Springer, Volume 20, Issue 4, Page 1037-1047, December 2017. DOI 10.1007/s10772-017-9468-3.
7. Prasanna Kumar MK and R. Kumaraswamy, "Single channel speech separation based on Empirical Mode Decomposition and Hilbert transform" IET Signal Processing, Volume 11, Issue 5, pp. 579-586, June 2017. DOI: [10.1049/iet-spr.2016.0450](https://doi.org/10.1049/iet-spr.2016.0450).

8. Prasanna Kumar M.K and R. Kumaraswamy , "Single-channel speech separation using Empirical Mode Decomposition and multi pitch information with estimation of number of speakers", *International Journal of Speech Technology*, Springer, Volume 20, Issue 1, Page 109-125, March 2017. DOI: 10.1007/s10772-016-9392-y.

9. Prasanna Kumar M K and R. Kumaraswamy "An unsupervised approach for co-channel speech separation using Hilbert-Huang Transform and Fuzzy C-Means Clustering", *International Journal of Speech Technology*, Springer, Volume 20, Issue 1, Page 1-13, March 2017. DOI: 10.1007/s10772-016-9381-1.

10. Prasanna Kumar M K and R. Kumaraswamy "Supervised and unsupervised separation of convolutive speech mixtures using f_0 and formant frequencies", *International Journal of Speech Technology*, Springer, Volume 18, Issue 4 (2015), Page 649-662. DOI 10.1007/s10772-015-9309-1

11. Prasanna Kumar M K "Speech Separation based on Time Frequency Ratio of Mixtures and Track Identification" *Lecture Notes in Electrical Engineering 221*, Volume 1, Springer :113-120, 11 January 2013

12. Prasanna Kumar M K and Padmavathi K. "STFT based Blind Separation of Underdetermined Speech Mixtures". *IJCA Special Issue on International Conference on Electronic Design and Signal Processing ICEDSP* (3):10-13, February 2013. Published by Foundation of Computer Science, New York, USA.

13. Prasanna Kumar M K and Dr. R. Kumaraswamy "Detection and Separation of sources from underdetermined Instantaneous mixtures without estimating the inverse mixing matrix". *IEEE International Conference on Communication and Signal processing* 2-4 April 2015 at Melmaruvathur, Tamil Nadu, India. Pages: 0095 - 0099, DOI: [10.1109/ICCSP.2015.7322636](https://doi.org/10.1109/ICCSP.2015.7322636)

14. Prasanna Kumar M K and Dr. R. Kumaraswamy "Role of f_0 and formant frequencies in unsupervised separation of convolutive speech mixtures". *IEEE International Conference on Applied and Theoretical Computing and Communication Technology*

	<p>(iCATccT) 29-31 October 2015 at Davanagere, Karnataka, India. Pages: 316 – 320, DOI: 10.1109/ICATCCT.2015.7456902</p> <p>15. Prasanna Kumar M.K and R. Kumaraswamy, "Speech separation with EMD as front-end for noise robust co-channel speaker identification", Proceedings of IEEE international conference on circuits, control, communication and computing, pp.101-104, Bangalore 4-6 October, 2016.</p> <p>16. Tejus R, Syed Moin, Yash Nishant, Prasanna Kumar MK, "Role of Source Separation using Combined RPCA and Block Thresholding for Effective Speaker Identification in Multi Source Environment ", IEEE International Conference On Recent Trends In Electronics Information Communication Technology, May 19-20, 2017,Bangalore.</p> <p>17. Prasanna Kumar MK, "An application of time frequency analysis in blind separation of nonstationary signals" Proceedings of International conference on VLSI and Signal Processing, KSIT, Bangalore, 2012.</p> <p>18. Prasanna Kumar M K "Speech Separation based on Time Frequency Ratio of Mixtures and Track Identification". Proceedings of International conference on Signal and Image processing , Dr. NGPIT, Coimbatore, 2012.</p> <p>19. Prasanna Kumar MK, "Blind separation of determined speech mixture using relative amplitude information in time frequency domain" Proceedings of International conference on Evolutionary trends in information technology, VTU, Belgaum, October 2012.</p>
<p>Publications: Engineering Education</p>	<ol style="list-style-type: none"> 1. Prasanna Kumar MK, Soniya Agrawal, Hemachandra Bhat 'Effectiveness of project based learning on outcome based education –a case study', Journal of Engineering Education Transformation, Vol.29, and Issue: 3, January 2016. <i>ISSN</i> 2349-2473, <i>eISSN</i> 2394-1707. <i>DOI:10.16920/Jeet/2016/v29i3/85250</i> 2. B Kanmani, Shreenivas B, Prasanna Kumar M K "Introducing a 'Modern Tool in Engineering Education: An Example", MITE 2015, October 2015, Amritsar, Punjab, India, MITE 2015, October 2015, Amritsar, Punjab, India, DOI:10.1109/MITE.2015.7375350 3. Rajeshwari Hegde, Prasanna Kumar M K, Suyash Bhatt,

	Gopalan Oppiliappan, “Learning outcomes of a national level project contest” , International conference on transformations in engineering education 2018, SRM university, Amaravathi, 15 july 2018
Publications: Communication and Signal Processing	<ol style="list-style-type: none"> 1. Prasanna Kumar MK, “A cochlear implant signal processing simulator system based on continuous interleaved sampling” Proceedings of National conference on communication, control and computing, SJEC, Mangalore, Feb 2011. 2. Prasanna Kumar MK, “LabVIEW based linear filtering approach to digital DTMF detection using Goertzel Algorithm” Proceedings of National conference in recent trends in electronics and communication engineering, BIET, Ballary, September 2010. 3. Prasanna Kumar MK, “An efficient fast algorithm for short convolution in DSP applications” Proceedings of National conference on Emerging trends in VLSI, embedded and Nano technologies, Sathyabhama University, Chennai, Jan 2011.
Courses Handled/List	<ul style="list-style-type: none"> • Discrete Time Signal Processing • Intellectual Property Rights • Signals and systems • Digital Signal Processing • Field Theory • DSP Architecture and algorithms • Probability and Random process • Speech processing • Biomedical Signal Processing • Basic Electronics • Computer Communication and Networks • Digital Communication • OOPS using C++ • C++ and Data Structures • Continuous time signal processing • Multimedia Communication • Introduction to Programming
Additional Responsibilities	<ol style="list-style-type: none"> 1. Research publications database

	<ol style="list-style-type: none">2. Research leading to publications3. Bridge course for 1st sem students (Introduction to Programming)4. Project Supervisor under Samsung “PRISM” program5. Member of BOE6. Coding club7. Magazine coordinator for 2017 Batch.
Other Information:	Qualified in GATE 2009 and GATE 2012