Faculty Profile

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Area of Interest/Specialization: Speech signal processing, speech synthesis

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Key Publications

[1] **Archana Balyan**, S. S. Agrawal, Amita Dev, "**Automatic phonetic segmentation of Hindi speech using Hidden Markov Model**", Journal of Artificial Intelligence & Society of Springer Verlag, London, United Kingdom, DOI: 10.1007/s00146-012-0386-2, Vol. 2, Issue 27, p-p 543-549, 2012.

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- [2] Archana Balyan, S. S. Agrawal, Amita Dev, "A Hindi speech synthesizer using phoneme concatenation approach", International Journal of Graphics and Image processing, ISSN number: 2249 –5452, Vol. 2, Issue 1, p-p 12-17, 2012.
- [3] **Archana Balyan**, S. S. Agrawal, Amita Dev, "**Speech Synthesis: A Review**", International Journal of Engineering research and Technology, ISSN: 2278-0181, Vol. 2, Issue 6, p-p 57-75, 2013.
- [4] **Archana Balyan**, S. S. Agrawal, Amita Dev, Ruchika Kumari, "**Labeling of Hindi Speech**", IETE Journal of Research, DOI: 10.1080/03772063.2015.1075914, published by Taylor & Francis, United Kingdom, 2015.
- [5] **Archana Balyan**, "Development of phoneme dominated database for limited domain t-t-s in Hindi" accepted for publication in **International Journal of Artificial Intelligence & Applications** (IJAIA), ISSN: 0975-900X [Online], 0976-2191[Print]
- [6] **Archana Balyan**, "Confusion Matrix analysis of syllable-like unit extracted from Hindi continuous speech" communicated to "**Indian Journal of Science and Technology**", ISSN:0974-5645,0974-6846, ICV 2015.
- [7] Ruchika Kumari, Amita Dev, **Archana Balyan** and Ashwani Kumar, "Machine learning techniques in Speech Generation: A Review", **Journal of Advanced Research in Dynamic and Control Systems**, Volume 11/11-Special Issue, pp-1095-1110, **2019.**

Papers presented in Conferences

1. **Balyan A.**, Singh Y., Shashank . Classifying Breast Cancer Based on Machine Learning. In: Proceedings of International Conference on Artificial Intelligence and Applications. Advances in Intelligent Systems and Computing, vol 1164. Springer, Singapore. 2020 https://doi.org/10.1007/978-981-15-4992-2 4

2. **Archana Balyan**. Group –delay based segmentation of continuous speech in Hindi "1st International conference on signal processing, VLSI and communication engineering (ICSPVCE- 2019), held in DTU, Delhi during 28-30th March 2019

- 3. Peeyush Kumar, Ayushe Gangal, Sunita Kumari, Aditya Kumar and Archana Balyan. GENigma(MayhemNet): Canalizing Stochasticity of Neural Nets into an Insurmountable Encryption Machine, 2nd International Conference on Networks and Cryptology (NetCrypt). 4-6 December, 2020. Jawaharlal Nehru University, New Delhi
- 4. **Balyan, Archana,** Development of Unit Selection Based Speech Synthesis System (April 21, 2018). Proceedings of 3rd International Conference on Internet of Things and Connected Technologies (ICIoTCT), 2018 held at Malaviya National Institute of Technology, Jaipur (India) on March 26-27, 2018. Available at SSRN: https://ssrn.com/abstract=3166732
- 5. Ruchika Kumari, **Archana Balyan**, Amita Dev, Ashwini Kumar, "Automatic Syllable like Segmentation of Hindi Speech based on Energy Convex Hull" Proceedings of 12th INDIACom-2018, IEEE Conference 2018, 5th International Conference on "Computing for Sustainable Global Development", 14th-16th March, 2018 at BVICAM, New Delhi, India.

Memberships of Professional bodies: ISTE (LM)

Other Contributions