

Parakrant Sarkar
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Education

- **Indian Institute of Technology Kharagpur** Kharagpur
MS (master's by research) Student in Computer Science & Engineering Jan. 2013 - Oct. 2016
 - **Advisors:** Dr. Krothapalli Sreenivasa Rao
 - **Thesis Title:** Prosody Modeling for storytelling style speech synthesis
 - **GPA:** 9.36/10.00
- **North Eastern Hill University** Meghalaya, India
Bachelor of Technology in Information Technology Aug. 2008 - Aug. 2012
 - **GPA:** 6.69/9, University Rank: 3rd

Research Interests

- **Speech Synthesis and Recognition:** Text Processing, Speaking Styles, Prosody modeling, Machine Learning, Natural Language Processing, and Deep Learning
- Practical Implementations of Speech and Language Technologies.

Work Experience

- **Speech Recognition Software Developer 2** Oct. 2016 - present
Vocera Communications, <https://www.vocera.com> Bengaluru, India
 - Improving the language model used in the recognition.
 - Analysis of speech recognition related issues.
 - Escalate the recognition related problems faced by our customers.
 - Python, Machine learning
- **Senior Scientific Officer** Sept. 2012 - Oct. 2016
Sponsored Research and Industrial Consultancy, IIT Kharagpur Kharagpur, India
 - This project was sponsored by Department of Information Technology, Govt. of India
 - Development of Story TTS systems for Indian Languages
 - Prosody modeling and text processing for TTS system
 - Python, Machine learning, Natural Language processing, Speech synthesis
 - Advisor:** Dr. Krothapalli Sreenivasa Rao

Research Experience

- **Undergraduate Researcher** Dec. 2011 - July 2012
School of Technology, North Eastern Hill University Meghalaya, India
 - Gene -gene module extraction from Gene -gene regulatory network
 - Advisor:** Prof. Swarup Roy
- **Undergraduate Researcher** Aug. 2011 - Dec. 2011
School of Technology, North Eastern Hill University Meghalaya, India
 - Study and analysis of process scheduling algorithm in Linux based platforms
 - Advisor:** Mr. Iftikhar Hussain

Publications

Conferences:

Sentence Based Discourse Classification for Hindi Story Text-to-Speech (TTS) System, Parakrant Sarkar, Kumud Tripathi and K. Sreenivasa Rao. in 13th International Conference on Natural Language Processing, (ICON 2016), IIT-BHU, Varanasi, 17-22 December 2016, India.

Development of Story Text-to-Speech System based on Story Genres, Parakrant Sarkar, and K. Sreenivasa Rao. in Workshop on Machine Learning in Speech and Language Processing (MLSLP 2016), Google San Fransisco, USA, 13 September, 2016.

Analysis and Modeling Pauses for Synthesis of Storytelling Speech based on Discourse modes, Parakrant Sarkar, and K. Sreenivasa Rao. in Proceedings of the IEEE International Conference on Contemporary Computing (IC3 2015), IIIT Noida, 11-13 August, India.

Data-Driven Pause Prediction for Synthesis of Storytelling Style Speech based on Discourse Modes, Parakrant Sarkar, and K. Sreenivasa Rao. in Proceedings of the IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT 2015), IIIT Bangalore, 10-11 July, India.

Modeling Pauses for Synthesis of Storytelling Style Speech Using Unsupervised Word Features, Parakrant Sarkar, and K. Sreenivasa Rao. Procedia Computer Science, Volume 58, 2015, Pages 42-49, ISSN 1877-0509, <http://dx.doi.org/10.1016/j.procs.2015.08.007>.

Data-Driven Pause Prediction for Speech Synthesis in Storytelling Style Speech, Parakrant Sarkar, and K. Sreenivasa Rao. in Proceedings of the IEEE 21st National Conference on Communication (NCC-2015), IIT Bombay, 27 February to 1 March, 2015, India.

Conversion of Neutral speech to Storytelling Style speech, Parakrant Sarkar, and K. Sreenivasa Rao. in Proceedings of the eighth IEEE International Conference on Advances in Pattern Recognition (ICAPR 2015), ISI Kolkata, 04-07 January 2015, India.

Duration Modeling by Multi-Models based on Vowel Production characteristics, Parakrant Sarkar, and K. Sreenivasa Rao. in 11th International Conference on Natural Language Processing, (ICON 2014), Goa University, Goa, 18-21 December 2014, India.

Designing prosody rule-set for converting neutral TTS speech to storytelling style speech for Indian languages Bengali, Hindi and Telugu, Parakrant Sarkar, Arijul Haque, Arup Kumar Dutta, Gurunath Reddy M., Harikrishna D. M., Prasenjit Dhara, Rashmi Verma, N. P. Narendra, Sunil Kr. S.B., Jainath Yadav, K. Sreenivasa Rao. in Proceedings of the IEEE International Conference on Contemporary Computing (IC3 2014), IIIT Noida, 20-24 August, India.

Journal:

Modeling of Pauses for Storytelling Style Speech Synthesis, Parakrant Sarkar, and K. Sreenivasa Rao. Computer Speech & Language, Elsevier [Under Review]

Story Genre Specific Prosody Modeling for Improvement in the Quality of Story Text-to-Speech System, Parakrant Sarkar, and K. Sreenivasa Rao. Computer Speech & Language, Elsevier [Under Review]

Relevant Coursework

- **Graduate Level**
Indian Institute of Technology Kharagpur

Jan. 2013 - Oct. 2016
Kharagpur

- Advance Topics in Speech Processing, Soft Computing and Application, Natural Language Processing, Machine Learning, Digital Signal Processing and Applications, Python

- **Undergraduate Level** July 2008 - May 2012
School of Technology, North Eastern Hill University Meghalaya, India
 – Data Structures, Computer Architecture, Theory of Computing, Compiler Design, Computer Networks, Design and analysis of Algorithms, Operating Systems, Bio informatics.

Teaching Experience

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| Graduate Teaching Assistant | Jan. 2014- April 2014 |
| <i>School of Information Technology, Indian Institute of Technology Kharagpur</i> | Kharagpur |
| Graduate Teaching Assistant | Jan. 2015- April 2015 |
| <i>School of Information Technology, Indian Institute of Technology Kharagpur</i> | Kharagpur |
| Advanced Topics in Speech Processing (IT60116; Spring 2014, 2015) | |

Skills

- Languages: Python, C/C++.
- Tools: Praat, Matlab, Weka, Scikit-learn, Matplot, Festival, Festvox.
- Learning: Tensorflow, Deeplearning