

# Bajibabu Bollepalli

TTS-Researcher; ML-enthusiast

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## Scientific Interests

**Scientific Focus** Sequence-to-Sequence mapping, specifically for Text-To-Speech (TTS); Generative models, such as GANs and WaveNet to model data distribution; Transfer learning to leverage large resources tasks for under resources tasks.

**Keywords** **Neural TTS, Transfer Learning, Deep Learning**

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## Work Experience

- Oct 2020 – Present **Applied Scientist**, *Amazon.com*, Cambridge, UK.  
*Supervisor:* Dr. Thomas Drugman  
*Description:* Working on improving the quality of long form of reading of TTS systems.
- Jul 2019 – Jun 2020 **Postdoc Fellow**, *verisk.com*, Munich, Germany.  
*Supervisor:* Dr. Maneesh Singh  
*Description:* Worked on audio classification problems.
- Jan 2018 – May 2018 **Industry Internship**, *Amazon.com*, Gdansk, Poland.  
*Supervisor:* Dr. Thomas Drugman  
*Description:* Worked for Alexa language technologies.
- Jan 2014 – Jul 2014 **Academic Internship**, *National Institute of Informatics*, Tokyo, Japan.  
*Supervisor:* Dr. Junichi Yamagishi  
*Description:* Worked in the direction of conversational speech synthesis.
- Feb 2013 – Mar 2013 **Academic Internship**, *Aalto University*, Espoo, Finland.  
*Supervisor:* Prof. Paavo Alku  
*Description:* Analyzed effect of MPEG compression on the vocoders of HMM-based statistical parametric speech synthesis systems.
- May 2012 – Jul 2012 **Industry Internship**, *Interactive Intelligence*, Indianapolis, USA.  
*Supervisor:* Dr. Aravind Ganapathiraju  
*Description:* Developed voices in English using HMM-based statistical parametric speech synthesis systems.

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## Education

- 2015– Present **Doctor of Technology**, *Aalto University*, Espoo, Finland.  
Speaking style adaptation in neural network based TTS systems (tentative).
- 2012–2015 **Degree of Licentiate of Engineering**, *KTH Royal Institute of Technology*, Stockholm, Sweden.  
Towards conversational speech synthesis - Experiments with data quality, prosody modification, and non-verbal signals
- 2011–2012 **Master of Science**, *IIT Hyderabad*, India.  
Voice conversion using articulatory features (By research)
- 2007–2011 **Bachelor of Technology**, *IIT Hyderabad*, India, *CGPA: 8.0/10*.  
Electronics and communication engineering (With honours)

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## Technical Skills

- Speech Technology
- Merlin, HTS, SPTK, and Festival/Festvox
- Machine Learning
- PyTorch, Tensorflow
  - Numpy, Scipy, Sklearn, Pandas, and Matplotlib

- Programming ○ Python (expert), MATLAB (proficient), Bash (good), C (basic), R (basic)      Operating System ○ Ubuntu

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## Honors and Achievements

- 2016 **Best student paper award**, INTERSPEECH
- 2016 **Best student paper award**, ICASSP
- 2010 **Selected in Deans list**, IIT-Hyderabad
- 2009 **Selected in Deans list**, IIT-Hyderabad

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## Publications

See this link for the complete list of papers: [Google scholar search](#)

### Selected publications

- **Bajibabu Bollepalli**, Lauri Juvela, Manu Airaksinen, Cassia Valentini-Botinhao, Paavo Alku, *Normal-to-Lombard adaptation of speech synthesis using long short-term memory recurrent neural networks*, in Speech Communication, Vol. 110, pp. 64-75, (2019).
- Lauri Juvela, **Bajibabu Bollepalli**, Vassilis Tsiaras, Paavo Alku, *GlottNet – A Raw Waveform Model for the Glottal Excitation in Statistical Parametric Speech Synthesis*, in IEEE/ACM Trans. Audio, Speech, and Language Processing, vol. 27, no. 6, pp. 1019-1030, (2019).
- **Bajibabu Bollepalli**, Lauri Juvela, Paavo Alku, *Speaking style adaptation in Text-To-Speech synthesis using Sequence-to-sequence models with attention*, arXiv preprint arXiv:1810.12051 (2018).
- Manu Airaksinen, Lauri Juvela, **Bajibabu Bollepalli**, Junichi Yamagishi, Paavo Alku, *A Comparison Between STRAIGHT, Glottal, and Sinusoidal Vocoding in Statistical Parametric Speech Synthesis*, in IEEE/ACM Transactions on Audio, Speech, and Language Processing, vol. 26, no. 9, pp. 1658-1670, Sept., 2018.
- **Bajibabu Bollepalli**, Lauri Juvela, Paavo Alku, *Generative adversarial network-based glottal waveform model for statistical parametric speech synthesis*, in Proc. of Interspeech, Stockholm, Sweden, 2017.
- **Bajibabu Bollepalli**, Manu Airaksinen, Paavo Alku, *Lombard speech synthesis using long short-term memory recurrent neural networks*, in Proc. of ICASSP, New Orleans, USA, 2017.
- Manu Airaksinen, **Bajibabu Bollepalli**, Lauri Juvela, Zhizheng Wu, Simon King, Paavo Alku, *GlottDNN - A full-band glottal vocoder for statistical parametric speech synthesis*, in Proc. of Interspeech, Sanfrancisco, USA, September, 2016. (*Received the best student paper award*)
- Lauri Juvela, **Bajibabu Bollepalli**, Manu Airaksinen, Paavo Alku, *High-pitched excitation generation for glottal vocoding in statistical parametric speech synthesis using a deep neural network*, in Proc. of ICASSP, Shanghai, China, March, 2016. (*Received the best student paper award*)
- **Bajibabu Bollepalli**, Alan W Black, Kishore Prahallad, *Modelling a noisy-channel for voice Conversion using articulatory features*, in Proc. of Interspeech, Oregon, Portland, USA, 2012.

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## Dissemination Activities

- 2014-2015 **Reviewer for**, *International Conference on Natural Language Processing (ICON)*.
- 2019 **Reviewer for**, *Computer Speech and Language Journal*.

### Other Interests

- Sports (hiking, badminton)      ○ Traveling

- Reading (Nonfiction)

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## References

Available upon request