

# Shuo Zhang

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*Bose Corp., 100 Mountain Rd, Framingham, MA 01710 • Résumé current as of September 17, 2020*

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## Skills

<b>Coding/ML/Cloud</b>	Python, Java, R, Matlab; Keras, Tensorflow; AWS S3/EC2,GCP
<b>Expertise areas</b>	Machine learning, NLP, audio and music computing
<b>Natural languages</b>	Mandarin (native), English, Spanish, Japanese, French

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## Employment

**Bose Corporation, *Senior Machine Learning Engineer III - IV*** ..... 07/2017 - present

- Sr. research engineer in Applied Research and Concept Development (Bose Labs)
- Focus on machine learning and deep learning for NLP and audio signal processing

**Universitat Pompeu Fabra (Spain), *Researcher Collaborator*** ..... 05/2013 - 06/2017

- Music Technology Group, Department of Communications and Information Technology (DTIC)
- CompMusic Project (Computational models for the discovery of world music) funded by European Research Council, PI: Xavier Serra
- Conduct research in NLP and MIR (Music Information Retrieval), time-series data mining, text mining, machine learning for audio signal processing and computational musicology

**Georgetown University, *PhD Research Assistant*** ..... 1/2012 - 06/2017

- Research and software development in research projects on NLP (search and visualization, coreference & NER, computational linguistics, speech processing, acoustic phonetics)
- Contributed to high-impact NLP and linguistic software projects including ANNIS, GitDOX, and XRENNER
- Research experience in Linguistics and Computer Science departments
- Course works from Linguistics, Mathematics, Computer Science, Neurosciences

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## Professional Services

**Invited Peer Reviews** ..... 2013-present

Glossa (Journal), EACL2021, EMNLP2020, EUSIPCO2020, DCASE2019, DCASE2020, ACL2020, ISMIR2020, ACL 2019, NAACL2019, ECNLP2019(WWW), ECNLP2020(WWW), NLP4MusA2020(ISMIR), ACAL2014, MASCSLL2017

**Services** ..... 2020-present

Ambassador, AI Accelerator Institute

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## Patents

**Bose Corp., *Co-inventor*** ..... 2020

Spatialized Voice Assistant, US20200142667A1

**Bose Corp., *Co-inventor*** ..... 2018

Systems and Methods for Augmented Reality Content Harvesting and Information Extraction (application pending approval)

## Invited Talks & Conference Tutorials

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- Invited talks** ..... 2010–present  
AI Festival by AI Accelerator Institute 2020, AI Accelerator Summit 2019/2020, Rework Deep Learning Summit 2019, Global AI Conference 2019/2020, Spotify, Bose, Dolby Labs, Tencent, Douban, University of Washington, Harvard University, Tufts University, Indiana University of Pennsylvania, Duquesne University, Carnegie Library of Pittsburgh, Peking University, Tsinghua University, Fudan University, China Communications University, China Conservatory of Music, Central Conservatory of Music, China Academy of Social Sciences, TWCCO Singapore, etc.
- Conference tutorials, *co-instructor*** ..... 2016  
“The Application of NLP in MIR”. Tutorial given at International Society for Music Information Retrieval (ISMIR) 2016 conference, NYU/Columbia University, New York.

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## Academics

- Georgetown University, *Washington DC*** ..... 2012–2017  
PhD, MS in Computational Linguistics (General Concentration)
- University of Pittsburgh, *Pittsburgh, PA*** ..... 2006–2009  
MA, Department of Music
- Peking University, *Beijing, China*** ..... 2002–2006  
BS, College of Environmental Sciences and Engineering

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## Publications

- Peer-reviewed publications & datasets (selected)** ..... 2010–present
- (2019) Zhang,S. Data mining Mandarin tone contour shapes. Proc. of SIGMORPHON at ACL 2019.
- (2017) Caro, R, Zhang, S, Serra, X. Quantitative analysis of the relationship between linguistic tones and melody in jingju using music scores. Proc. of DfML at ISMIR 2017 (published by ACM-ICPS).
- (2017) Zhang,S., Caro,R, Serra,X. Understanding the expressive functions of jingju metrical patterns through lyrics text mining. Proc. of ISMIR 2017.
- (2017) Zhang,S. RankLyrics: A ranking-based approach to automatic song lyrics generation. Poster at MASCSLL’17 .
- (2017) Zhang, S., Zeldes, A. GitDOX: A Linked Version Controlled Online XML Editor for Manuscript Transcription. Proc. of FLAIRS 30 (published by AAAI Press).
- (2016) Zhang, S. Mining linguistic tone patterns with symbolic representation. Proc. of the 14th SIGMORPHON at ACL 2016.
- (2016) Zeldes,A, Zhang, S. When Schemas Change Rules Help : A Configurable Approach to Coreference beyond OntoNotes. Proc. of CORBON at NAACL 2016.
- (2015) Zhang,S, Caro, R, Serra,X. Predicting pairwise pitch contour relations based on linguistic tone information in Beijing opera singing. Proc. of ISMIR 2015.
- (2014) Zhang, S, Caro, R, Serra,X,. Study of the similarity between linguistic tones and melodic pitch contours in Beijing Opera singing. Proc. of ISMIR 2014.
- (2010) Zhang, S. Speech-to-Song Illusion: Evidence from MC. Sino-European Winter School of Logic, Language, and Computation.
- (2017) Zhang,S, Caro, R, Serra,X, & Yang,Y. Annotated jingju arias dataset. Zenodo.  
<http://doi.org/10.5281/zenodo.1285647>.
- (2017) Zhang,S, Caro, R. Jingju Lyrics Datasets. Zenodo. <http://doi.org/10.5281/zenodo.1285632>.
- (2019) Thomas Krause, Weißenfels Benjamin, Tom R., IrinaGlushanok, Martin Klotz, Shuo Zhang, Luke Gessler, Amir Zeldes, fab-bar, Stephan Druskat, adrianeboyd, egon w. stemle, Thomas N, Lari Lampen, Florian Petran. korpling/ANNIS beta.3 (Version beta.3). Zenodo.  
<http://doi.org/10.5281/zenodo.3507129>.