Rui Liu (PhD)

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| **Contact:** liurui\_imu@163.com  **Date of Birth:** 1994.05.18  **Gender:** Male  **Nationality:** People’s Republic of China  **Address:** College of Computer Science.  235 Daxue West Road, Saihan District, Hohhot. China 010021. | http://ece.nus.edu.sg/hlt/wp-content/uploads/2020/04/Liu-image-e1586399164764-1024x1017.jpg |

Rui Liu is currently a Professor in National and Local Joint Engineering Research Center of Mongolian Intelligent Information Processing, Inner Mongolia University. Rui Liu received his PhD at Computer Science from Inner Mongolia University of China in 2020. He has been a visiting PhD student at National University of Singapore, fully-funded by China Scholarship Council. He has been a Research Fellow with the school of electrical and computer engineering, National University of Singapore. He has published more than 20 papers in top-tier NLP/ML/AI conferences and journals, including IEEE/ACM-TASLP, Neural Networks, ICASSP, COLING, INTERSPEECH, etc. Dr. Liu serves as the reviewer for many major referred journal and conference papers. His research interests broadly lie in audio, speech and natural language processing, which include expressive Text-to-Speech (TTS), expressive voice conversion, speech emotion recognition, prosody structure prediction, grapheme-to-phoneme conversion (G2P), syntax parsing et. al.

# Experiences

**Professor** College of Computer Science 2022-Present

Inner Mongolia University, China

**Research Fellow** Electrical and Computer Engineering 2020-2022

National University of Singapore, Singapore

**PhD (Exchange)** Electrical and Computer Engineering

National University of Singapore, Singapore 2019-2020

*Fully-funded by China Scholarship Council (CSC) Scholarship*

**PhD** Computer Science

Inner Mongolia University, China 2020

**BS** Bachelor of Engineering in Software Engineering

Dept. of software, Taiyuan University of Technology 2014

# Honors and Awards

# 2022 IALP 2021 “Best Paper Award”

# 2020 ICASSP IEEE SPS Travel Grant

# 2019 China Scholarship Council (CSC) scholarships

# 2018 National scholarship for Doctoral students

# 2018 Academic scholarship of Inner Mongolia autonomous region

# 2017 National scholarship for Doctoral students

# 2017 Academic scholarship of Inner Mongolia autonomous region

# 2016 Academic scholarship of Inner Mongolia autonomous region

# 2011 National Encouragement scholarship

# Selected Publications [[Google Scholar]](https://scholar.google.com.sg/citations?user=B2t0J-IAAAAJ&hl=zh-CN)

1. **Rui Liu**, Berrak Sisman, Guanglai Gao and Haizhou Li, Decoding Knowledge Transfer for Neural Text-to-Speech Training, in IEEE/ACM Transactions on Audio, Speech, and Language Processing, vol. 30, pp. 1789-1802, 2022, doi: 10.1109/TASLP.2022.3171974.
2. Lu, Junchen, Berrak Sisman, **Rui Liu**, Mingyang Zhang, and Haizhou Li. VisualTTS: TTS with accurate lip-speech synchronization for automatic voice over. In ICASSP 2022-2022 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), pp. 8032-8036. IEEE, 2022.
3. **Rui Liu**, Berrak Sisman, Guanglai Gao and Haizhou Li, Expressive TTS Training With Frame and Style Reconstruction Loss, in IEEE/ACM Transactions on Audio, Speech, and Language Processing, vol. 29, pp. 1806-1818, 2021, doi: 10.1109/TASLP.2021.3076369.
4. **Rui Liu**, Berrak Sisman and Haizhou Li. Graphspeech: Syntax-aware graph attention network for neural speech synthesis. In ICASSP 2021-2021 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), pp. 6059-6063. IEEE, 2021.
5. **Rui Liu**, Berrak Sisman and Haizhou Li, Reinforcement Learning for Emotional Text-to-Speech Synthesis with Improved Emotion Discriminability. Proc. Interspeech 2021, 4648-4652, doi: 10.21437/Interspeech.2021-1236
6. Zhou Kun, Berrak Sisman, **Rui Liu**, and Haizhou Li. Seen and unseen emotional style transfer for voice conversion with a new emotional speech dataset. In ICASSP 2021-2021 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), pp. 920-924. IEEE, 2021.
7. **Rui Liu**, Berrak Sisman, Feilong Bao, Jichen Yang, Guanglai Gao and Haizhou Li, Exploiting Morphological and Phonological Features to Improve Prosodic Phrasing for Mongolian Speech Synthesis, *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, vol. 29, pp. 274-285, 2021, doi: 10.1109/TASLP.2020.3040523.
8. Yi Zhou, Xiaohai Tian, Xuehao Zhou, Mingyang Zhang, Grandee Lee, **Rui Liu**, Berrak Sisman, and Haizhou Li, NUS-HLT System for Blizzard Challenge 2020, in Proc. Joint Workshop for the Blizzard Challenge and Voice Conversion Challenge, Shanghai, China, October 2020, pp. 44-48.
9. **Rui Liu**, Berrak Sisman, Feilong Bao, Guanglai Gao and Haizhou Li, Modeling Prosodic Phrasing with Multi-Task Learning in Tacotron-based TTS, IEEE Signal Processing Letters, 27, 2020, pp. 1470-1474.
10. **Rui Liu,** Berrak Sisman, Jingdong Li, Feilong Bao, Guanglai Gao and Haizhou Li. Teacher-student training for robust tacotron-based tts." In ICASSP 2020-2020 IEEE international conference on acoustics, speech and signal processing (ICASSP), pp. 6274-6278. IEEE, 2020.
11. **Rui Liu**, Berrak Sisman, Feilong Bao, Guanglai Gao and Haizhou Li. WaveTTS: Tacotron-based TTS with Joint Time-Frequency Domain Loss. In: 12nd The Speaker and Language Recognition Workshop (Odyssey2020)
12. **Rui Liu**, Jingdong Li, Feilong Bao and Guanglai Gao. The IMU speech synthesis entry for Blizzard Challenge 2019. In: Blizzard Challenge 2019
13. **Rui Liu**, Feilong Bao, and Guanglai Gao. Building Mongolian TTS Front-End with Encoder-Decoder Model by Using Bridge Method and Multi-view Features. In: 33rd International Conference on Neural Information Processing (ICONIP2019)
14. **Rui Liu**, Feilong Bao, Guanglai Gao, Hui Zhang and Yonghe Wang. Improving Mongolian Phrase Break Prediction by Using Syllable and Morphological Embeddings with BiLSTM Model. In: 15th Conference of the International Speech Communication Association (InterSpeech2018)
15. **Rui Liu**, Feilong Bao, Guanglai Gao, Hui Zhang and Yonghe Wang. A LSTM Approach with Sub-Word Embeddings for Mongolian Phrase Break Prediction. In: 27th International Conference on Computational Linguistics (COLING 2018)
16. **Rui Liu**, Feilong Bao, Guanglai Gao, Hui Zhang and Yonghe Wang. Phonologically Aware BiLSTM Model for Mongolian Phrase Break Prediction with Attention Mechanism. In: 15th Pacific Rim International Conference on Artificial Intelligence (PRICAI2018)
17. Jingdong Li, Hui Zhang, **Rui Liu**, Xueliang Zhang and Feilong Bao. End-to-End Mongolian Text-to-Speech System. In: 11th International Symposium on Chinese Spoken Language Processing (ISCSLP2018)
18. **Rui Liu**, Feilong Bao, Guanglai Gao and Yonghe Wang. Mongolian Text-to-Speech System Based on Deep Neural Network. National Conference on Man-Machine Speech Communication. Springer, Singapore, 2017: 99-108.
19. **Rui Liu**, Feilong Bao and Guanglai Gao. Mongolian prosodic phrase prediction using suffix segmentation. In: 20th International Conference on Asian Language Processing (IALP 2016)
20. **Rui Liu**, Feilong Bao, Guanglai Gao and Hongwei Zhang. Approach to Prediction Mongolian Prosody Phrase Based on CRF Model. In: 13th National Conference on Man-Machine Speech Communication（NCMMSC2015）

# References

1. Dr. Haizhou Li (IEEE Fellow, ISCA Fellow)

Professor, National University of Singapore/Chinese University of Hong Kong (Shenzhen)

Email: eleliha@nus.edu.sg

Contact: +65 6516 6473

Website: <https://colips.org/~eleliha/>

1. Dr. Berrak Sisman

Assistant Professor, Singapore University of Technology and Design (SUTD)

Email: [Berrak\_sisman@sutd.edu.sg](mailto:Berrak_sisman@sutd.edu.sg)

Contact: +65 86207616

Website: <https://istd.sutd.edu.sg/people/faculty/berrak-sisman>

1. Dr. Guanglai Gao

Professor, Inner Mongolia University

Email: csggl@imu.edu.cn

Contact: +86 138 4703 1101

Website: <https://ccs.imu.edu.cn/info/1152/3125.htm>