

姓名 王胜蓓

职称：副教授

政治面貌：党员

办公地点：教学 C611A 电子邮箱：466209046@qq.com



教学科研简介

- 深度学习
- 信息隐藏及篡改检测技术
- 语音信号处理

学习经历

- 2012.10 至 2015.09 日本北陆先端科学技术大学院大学，信息科学 博士

工作经历

- 2020-01 至今，天津工业大学，软件学院，副教授
- 2016-05 至 2019-12，天津工业大学，软件学院，讲师

主讲课程

- 软件工程
- 软件项目管理
- 科技论文写作
- Software engineering (留学生-英文授课)

代表性论文

1. Weitao Yuan, **Shengbei Wang**, Jianming Wang, Masashi Unoki, Wenwu Wang, Unsupervised deep unfolded representation learning for singing voice separation, *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, vol. 31, pp. 3206-3220, 2023.
2. **Shengbei Wang**, Weitao Yuan, Masashi Unoki, Multi-subspace echo hiding based on time-frequency similarities of audio signals, *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, vol. 28, pp. 2349-2363, 2020.

3. Weitao Yuan, Yuren Bian, **Shengbei Wang**, Masashi Unoki, Wenwu Wang, an improved optimal transport kernel embedding method with gating mechanism for singing voice separation and speaker identification, *2023 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP2023)*, pp. 1-5, 2023.
4. **Shengbei Wang**, Weitao Yuan, Zhen Zhang, LinWang, Speech watermarking based tamper detection and recovery scheme with high tolerable tamper rate, *Multimedia Tools and Applications*, 2023.
5. Weitao Yuan, Bofei Dong, **Shengbei Wang**, Masashi Unoki, Wenwu Wang, Evolving multi-resolution pooling cnn for monaural singing voice separation, *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, vol. 29, pp. 807-822, 2021.
6. **Shengbei Wang**, Weitao Yuan, Zhen Zhang, Jianming Wang, Masashi Unoki, Synchronous multi-bit audio watermarking based on phase shifting, *Proc. 46th International Conference on Acoustics, Speech and Signal Processing (ICASSP2021)*, pp. 2700-2704, 2021.
7. Weitao Yuan, **Shengbei Wang**, Xiangrui Li, Masashi Unoki, Wenwu Wang, Crossfire conditional generative adversarial networks for singing voice extraction, *Proc. Annual Conference of International Speech Communication Association (InterSpeech2021)*, pp. 3041-3045, 2021.
8. **Shengbei Wang**, Weitao Yuan, Zhen Zhang, Jianming Wang, Masashi Unoki, Tampering detection for speech signals using synchronization code and LSF based watermarks, *Proc. 13th Asia Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC)*, pp. 1621-1626, 2021.
9. Candy Olivia Mawalim, **Shengbei Wang**, Masashi Unoki, Speech information hiding by modification of LSF quantization index in CELP codec, *Proc. 2020 Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC)*, 2020.
10. **Shengbei Wang**, Chao Wang, Weitao Yuan, Lin Wang, Jianming Wang, A secure echo-hiding audio watermarking method based on improved PN sequence and robust principal component analysis, *IET Signal Processing*, vol.14, no. 4, pp. 229 -242, 2020.
11. Weitao Yuan, **Shengbei Wang**, Xiangrui Li, Masashi Unoki, Wenwu Wang, A skip attention mechanism for monaural singing voice separation, *IEEE Signal Processing Letters*, vol. 26, no. 10, pp. 1481-1485, 2019.
12. **Shengbei Wang**, Weitao Yuan, Jianming Wang, Masashi Unoki, Inaudible speech watermarking based on self-compensated echo-hiding and sparse subspace clustering, *Proc. 44th International Conference on Acoustics, Speech and Signal Processing (ICASSP2019)*, pp. 2632 - 2636, 2019.
13. Weitao Yuan, **Shengbei Wang**, Xiangrui Li, Masashi Unoki, Wenwu Wang, Proximal deep recurrent neural network for monaural singing voice separation, *Proc. 44th International Conference on Acoustics, Speech and Signal Processing (ICASSP2019)*, pp. 286-290, 2019.
14. Boxin He, **Shengbei Wang**, Weitao Yuan, Jianming Wang, Masashi Unoki, Data

- augmentation for monaural singing voice separation based on variational autoencoder and generative adversarial network, *IEEE International Conference on Multimedia and Expo (ICME2019)*, pp.1354-1359, 2019.
15. **Shengbei Wang**, Weitao Yuan, Jianming Wang, Masashi Unoki, Detection of speech tampering using sparse representations and spectral manipulations-based information hiding, *Speech Communication*, vol. 112, pp. 1–14, 2019.
 16. Weitao Yuan, Boxin He, **Shengbei Wang**, Jianming Wang, Masashi Unoki, Enhanced feature network for monaural singing voice separation, *Speech Communication*, vol. 106, pp. 1-6, 2019.
 17. **Shengbei Wang**, Weitao Yuan, Jianming Wang, Masashi Unoki, Speech watermarking based on source-filter model of speech production, *Journal of Information Hiding and Multimedia Signal Processing (JIHMSP)*, vol. 10, no. 4, pp. 517-534, 2019.
 18. **Shengbei Wang**, Weitao Yuan, Jianming Wang, Masashi Unoki, Speech watermarking based on robust principal component analysis and formant manipulations, *Proc. 43rd International Conference on Acoustics, Speech and Signal Processing (ICASSP2018)*, pp. 2082-2086, 2018.
 19. Li Weiqi , Wang Jianming, **Wang Shengbei**, Jin Guanghao, Get the whole action event by action stage classification, *Proc. 15th Pacific Rim Knowledge Acquisition Workshop, (PKAW2018)*, pp. 231-240, 2018.
 20. Wei Deng, Jianming Wang, **Shengbei Wang**, Guanghao Jin, Flexible sentence analysis model for visual question answering network, *Proc. ACM International Conference Proceeding Series-International Conference on Biomedical Engineering and Bioinformatics (ICBEB2018)*, pp. 89-95, 2018.
 21. **Shengbei Wang**, Xuyang Liu, Xin Dang, Jianming Wang, A robust speech watermarking based on quantization index modulation and double discrete Cosine transform, *Proc. 10th International Congress on Image and Signal Processing, BioMedical Engineering and Informatics (CISP-BMEI2017)*, pp. 1-6, 2017.
 22. Jianwu Dang, **Shengbei Wang**, and Masashi Unoki, Investigation into vowel and consonant structures in articulatory and auditory spaces using Laplacian eigenmaps, *Proc. 41st International Conference on Acoustics, Speech and Signal Processing (ICASSP2016)*, pp. 5355-5359, 2016.
 23. **Shengbei Wang** and Masashi Unoki, Speech watermarking method based on formant tuning, *IEICE Trans. INF. & SYST., Enriched Multimedia*, vol. E98-D, no. 1, pp. 29-37, 2015.
 24. **Shengbei Wang**, Ryota Miyauchi, Masashi Unoki, and Nam Soo Kim, Tampering detection scheme for speech signals using formant enhancement based watermarking, *Journal of Information Hiding and Multimedia Signal Processing (JIHMSP)*, vol. 6, no. 6, pp. 1264-1283, 2015.
 25. Erick Christian Garcia Alvarze, **Shengbei Wang**, and Masashi Unoki, An automatic watermarking in CELP speech codec based on formant tuning, *Proc. 11th Intelligent Information Hiding and Multimedia Signal Processing (IIHMSP2015)*, pp. 160-163, 2015.
 26. **Shengbei Wang**, Masashi Unoki, Nam Soo Kim, Formant enhancement based

- speech watermarking for tampering detection, *Proc. Annual Conference of International Speech Communication Association (InterSpeech2014)*, pp. 1366-1370, 2014.
27. **Shengbei Wang**, Masashi Unoki, Watermarking of Speech Signals based on Formant Enhancement, *Proc. 22nd European Signal Processing Conference (EUSIPCO2014)*, pp. 1257-1261, Portugal, 2014.
 28. **Shengbei Wang**, Masashi Unoki, Hybrid speech watermarking based on formant enhancement and cochlear delay, *Proc. 10th Intelligent Information Hiding and Multimedia Signal Processing (IIHMSP2014)*, pp. 272-275, Japan, 2014.
 29. Masashi Unoki, Jessada Karnjana, **Shengbei Wang**, Nhut Minh Ngo, and Ryota Miyauchi, Comparative evaluations of inaudible and robust watermarking for digital audio signals, *Proc. 21st International Congress on Sound and Vibration (ICSV2014)*, China, 2014.
 30. **Shengbei Wang**, Masashi Unoki, Watermarking method for speech signals based on modifications to LSFs, *Proc. 9th Intelligent Information Hiding and Multimedia Signal Processing (IIHMSP2013)*, pp. 283-286, China, 2013.
 31. Han Xu, Jianming Wang, **Shengbei Wang**, Algorithm of illuminant reflection detection and segmentation in indoor image for navigation, *Journal of Tianjin polytechnic university*, vol. 32, no. 6, pp. 59-62, 2013.
 32. Nhut Minh Ngo, **Shengbei Wang**, Masashi Unoki, Method of digital-audio watermarking based on cochlear delay in sub-bands, *Proc. 27th International Technical Conference on Circuits/Systems, Computers and Communications (ITC-CSCC 2012)*, D-W1-03, Japan, 2012.
 33. **Shengbei Wang**, Jianming Wang, Xi Wang, Ling Ma, Ruzhen Dou, Yu Leng, Automatic detection of illuminant reflection in indoor vision-based navigation, *Advanced Materials Research*, vol. 301-303, pp. 201-207, 2011.
 34. Jiangming Wang, Xi Wang, **Shengbei Wang**, Shixin Li, Yu Leng, Floor segmentation algorithm for indoor vision/inertial integrated navigation, *Journal of Chinese Inertial Technology*, vol.19 no. 5, pp. 553-558, 2011.
 35. Ling Ma, Jiangming Wang, Bo Zhang, **Shengbei Wang**, Automatic Floor Segmentation for Indoor Robot Navigation, *IEEE Internal Conference on Signal Processing Systems (ICSPS 2010)*, V1, pp. 684-689, 2010.

教学科研项目

项目负责人 | 国家自然科学基金-面上项目 | 2025/01-2028/12

- 基于声学建模及快速神经网络结构搜索的深度语音篡改检测技术研究
(62471333)
- 51 万, 在研, 主持

项目负责人 | 天津市自然科学基金-面上项目 | 2025/04-2028/03

- 面向复杂动态场景的多语音分离关键算法研究
- 10 万, 在研, 主持

项目负责人 | 国家自然科学基金-青年项目 | 2020/01-2022/12

- 语音声学参数篡改检测的关键理论及算法研究（61902280）
- 28 万，已结题，主持

项目负责人 | 天津市自然科学基金 | 2017/04-2020/03

- 基于线性预测频谱调制的语音水印及语音篡改检测技术研究（17JCQNJC00100）
- 6 万，已结题，主持

项目负责人 | 天津市教育委员会基金 | 2017/11-2020/10

- 即时通讯软件中语音安全及真伪鉴定技术研究（2017KJ089）
- 6 万，已结题，主持

项目参与人 | 天津市教育委员会基金 | 2018/11-2021/10

- 基于多目标对抗网络的语音安全及认证技术研究（2018KJ218）
- 6 万，已结题，第二参与人

项目参与人 | 天津市自然科学基金 | 2016/10-2019/09

- 基于深度神经网络的市民大数据分析关键技术研究（16JCYBJC42300）
- 10 万，已结题，第二参与人

项目参与人 | 国家自然科学基金青年项目 | 2019/01-2021/12

- 基于门控卷积神经网络和长期记忆建模的复杂文本分类模型研究（61806142）
- 20 万，已结题，第三参与人

项目参与人 | 国家自然科学基金青年项目 | 2017/01-2019/12

- 基于感知哈希学习的图像认证方法研究（61602344）
- 20 万，已结题，参与人

获奖情况

天津市“131”创新型人才培养工程 第三层次人选 天津市 2017