王胜蓓

职称：副教授　　　　政治面貌：党员

办公地点：　C507　　电子邮箱：466209046@qq.com

教学科研简介

- 音频/语音信号的信息隐藏技术
- 数字水印技术
- 深度学习
- 数字取证中的篡改检测技术
- 信号与信息处理

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
- 2009.09 至 2012.03　天津工业大学，信号处理　硕士
- 2005.09 至 2009.07　天津工业大学，电子信息工程　本科

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，在研，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，在研，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，在研，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，在研，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，在研，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，在研，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，在研，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