

# Hanzhou Wu

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<https://hzwu.github.io>

## EDUCATION

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<b>Southwest Jiaotong University</b> <i>Ph.D. in Information Security</i>	September 2011 – June 2017 <i>Chengdu 611756, Sichuan, China</i>
<b>Southwest Jiaotong University</b> <i>B.Sc. in Information Security (with Mao Yisheng Honors Class)</i>	September 2007 – June 2011 <i>Chengdu 611756, Sichuan, China</i>

## PROFESSIONAL EXPERIENCE

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<b>Associate Professor</b> <i>School of Communication and Information Engineering, Shanghai University</i>	March 2021 – Present <i>Shanghai 200444, China</i>
<b>Assistant Professor</b> <i>School of Communication and Information Engineering, Shanghai University</i>	March 2019 – February 2021 <i>Shanghai 200444, China</i>
<b>Research Scientist</b> <i>Institute of Automation, Chinese Academy of Sciences</i>	July 2017 – February 2019 <i>Beijing 100190, China</i>
<b>Visiting Scholar</b> <i>Dept. of Electrical and Computer Engineering, New Jersey Institute of Technology</i>	October 2014 – October 2016 <i>Newark 07102, NJ, USA</i>

## RESEARCH INTERESTS

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*digital watermarking, steganography, steganalysis, data hiding, and digital forensics.*  
Teaching at Shanghai University: *Information Network and Security, Multimedia Information Security.*

## SELECTED AWARDS AND HONORS

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<b>Outstanding Paper Award</b> <i>co-author, in China Media Forensics and Security Workshop</i>	<i>November 2023</i>
<b>CCF-Tencent Rhino-Bird Young Faculty Open Research Fund</b> <i>Principal Investigator, supported by Tencent Inc.</i>	<i>August 2022</i>
<b>Best Presentation Award</b> <i>first author, in China Media Forensics and Security Workshop</i>	<i>November 2021</i>
<b>Outstanding Paper Award</b> <i>first author, in China Information Hiding and Multimedia Security Workshop</i>	<i>October 2019</i>
<b>Shanghai “Chenguang” Program</b> <i>Principal Investigator, supported by Shanghai Municipal Education Commission</i>	<i>December 2019</i>
<b>Silver Medal</b> <i>contestant, 36th ACM-ICPC Asia Regional Programming Contest (Chengdu Site)</i>	<i>November 2011</i>
<b>Silver Medal</b> <i>contestant, 36th ACM-ICPC Beijing Invitational Programming Contest</i>	<i>June 2011</i>
<b>Silver Medal</b> <i>contestant, “Google Cup” ACM-ICPC Fudan Invitational Programming Contest</i>	<i>May 2011</i>
<b>Bronze Medal</b> <i>contestant, 35th ACM-ICPC Asia Regional Programming Contest (Hangzhou Site)</i>	<i>October 2010</i>
<b>Bronze Medal</b> <i>contestant, 35th ACM-ICPC Asia Regional Programming Contest (Tianjin Site)</i>	<i>September 2010</i>

## SELECTED ACTIVITIES AND SERVICES

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### Steering Committee Member

16th International Conference on Advances in Multimedia (Barcelona, Spain) 2024

### Technical Committee Member

APSIPA Multimedia Security and Forensics (MFS) November 2023 - Present

### Invited Speech

“Information hiding and its detection”

Binjiang Institute of Zhejiang University (Hangzhou, China) 2023

### Invited Speech

“Multimedia and AI security”

Rhino-Bird Middle School Science Talents Training Program (Tencent Inc.) 2023

### Invited Speech

“Interpretable model watermarking in frequency domain”

Shenzhen University (Shenzhen, China) 2023

### Invited Speech

“Model watermarking for speech signal processing”

A2M Summit (Shanghai, China) 2023

### Steering Committee Member

15th International Conference on Advances in Multimedia (Venice, Italy) 2023

### Keynote Speaker

“Advances in DNN watermarking”

14th International Conference on Advances in Multimedia (Barcelona, Spain) 2022

### Steering Committee Member

14th International Conference on Advances in Multimedia (Barcelona, Spain) 2022

### Local Organization Chair

14th IEEE International Workshop on Information Forensics and Security (Shanghai, China) 2022

### Lead Guest Editor

Advances in AI-related Information Forensics and Security, Security and Communication Networks 2022

### Lead Guest Editor

Information Hiding - New Applications and Solutions, International Journal of Distributed Sensor Networks 2021

## FUNDINGS

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### National Natural Science Foundation of China

Co-Principal Investigator, RMB 2,560,000 January 2024 - December 2027

### CCF-Tencent Rhino-Bird Young Faculty Open Research Fund

Principal Investigator, RMB 150,000 October 2022 - December 2023

### Shanghai “Chen Guang” Program

Principal Investigator, RMB 60,000 January 2020 - December 2022

### National Natural Science Foundation of China

Principal Investigator, RMB 280,000 January 2020 - December 2022

### China Scholarship Council

Visiting Scholar, USD 40,800 + round-trip flight tickets October 2014 - October 2016

## BOOK CHAPTERS

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1. H. Wu. Unsupervised steganographer identification via clustering and outlier detection. In: *Digital Media Steganography (Chapter 13)*, Elsevier, 2020.
2. H. Wu. Recent advances in reversible watermarking in an encrypted domain. In: *Advanced Security Solutions for Multimedia (Chapter 4)*, IOP Science, 2021.

3. H. Wu. Graph models in information hiding. In: *Recent Applications in Graph Theory (Chapter 1)*, IntechOpen, 2021.
4. H. Wu, T. Yang, X. Zheng, Y. Fang. Linguistic steganography and linguistic steganalysis. In: *Adversarial Multimedia Forensics*, Springer, to appear, 2023.

#### SELECTED PUBLICATIONS

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- J1 G. Xu, H. Wu, Y. Shi. Structural design of convolutional neural networks for steganalysis. *IEEE Signal Processing Letters*, vol. 23, no. 5, pp. 708-712, 2016.
- J2 H. Wu, Y. Shi, H. Wang, L. Zhou. Separable reversible data hiding for encrypted palette images with color partitioning and flipping verification. *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 27, no. 8, pp. 1620-1631, 2017.
- J3 H. Wu, X. Zhang. Game-theoretic analysis to parameterized reversible watermarking. *IETE Technical Review*, vol. 38, no. 1, pp. 26-35, 2021.
- J4 H. Wu, B. Yi, F. Ding, G. Feng, X. Zhang. Linguistic steganalysis with graph neural networks. *IEEE Signal Processing Letters*, vol. 28, pp. 558-562, 2021.
- J5 H. Wu, G. Liu, Y. Yao, X. Zhang. Watermarking neural networks with watermarked images. *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 31, no. 7, pp. 2591-2601, 2021.
- J6 B. Yi, H. Wu, G. Feng, X. Zhang. ALiSa: Acrostic linguistic steganography based on BERT and Gibbs sampling. *IEEE Signal Processing Letters*, vol. 29, pp. 687-691, 2022.
- J7 H. Wu, C. Li, G. Liu, X. Zhang. Hiding data hiding. *Pattern Recognition Letters*, vol. 165, pp. 122-127, 2023.
- J8 T. Yang, H. Wu, B. Yi, G. Feng, X. Zhang. Semantic-preserving linguistic steganography by pivot translation and semantic-aware bins coding. *IEEE Transactions on Dependable and Secure Computing*, Early Access, 2023.
- J9 S. Chen, A. Malik, X. Zhang, G. Feng, H. Wu. A fast method for robust video watermarking based on Zernike moments. *IEEE Transactions on Circuits and Systems for Video Technology*, Early Access, 2023.
- J10 X. Zhao, H. Wu, X. Zhang. Effective backdoor attack on graph neural networks in spectral domain. *IEEE Internet of Things Journal*, Early Access, 2023.
- C1 H. Wu, H. Wang, Y. Shi. PPE-based reversible data hiding. *ACM Workshop on Information Hiding and Multimedia Security*, pp. 187-188, 2016.
- C2 G. Xu, H. Wu, Y. Shi. Ensemble of CNNs for steganalysis: an empirical study. *ACM Workshop on Information Hiding and Multimedia Security*, pp. 103-107, 2016.
- C3 H. Wu, H. Wang, Y. Shi. Dynamic content selection-and-prediction framework applied to reversible data hiding. *IEEE International Workshop on Information Forensics and Security*, pp. 1-6, 2016.

- C4 H. Wu, W. Wang, J. Dong, H. Wang. New graph-theoretic approach to social steganography. *IS&T Electronic Imaging, Media Watermarking, Security and Forensics*, pp. 539-1-539-7, 2019.
- C5 H. Wu, X. Zhang. Reducing invertible embedding distortion using graph matching model. *IS&T Electronic Imaging, Media Watermarking, Security and Forensics*, pp. 21-1-21-10, 2020.
- C6 J. Wang, H. Wu, X. Zhang, Y. Yao. Watermarking in deep neural networks via error back-propagation. *IS&T Electronic Imaging, Media Watermarking, Security and Forensics*, pp. 22-1-22-9, 2020.
- C7 H. Kang, H. Wu, X. Zhang. Generative text steganography based on LSTM network and attention mechanism with keywords. *IS&T Electronic Imaging, Media Watermarking, Security and Forensics*, pp. 291-1-291-8, 2020.
- C8 H. Wu. Patch-level selection and breadth-first prediction strategy for reversible data hiding. *IEEE International Conference on Acoustics, Speech, and Signal Processing*, pp. 2837-2841, 2020.
- C9 X. Zhao, Y. Yao, H. Wu, X. Zhang. Structural watermarking to deep neural networks via network channel pruning. *IEEE International Workshop on Information Forensics and Security*, pp. 1-6, 2021.
- C10 B. Yi, H. Wu, G. Feng, X. Zhang. Exploiting language model for efficient linguistic steganalysis. *IEEE International Conference on Acoustics, Speech, and Signal Processing*, pp. 3074-3078, 2022.
- C11 H. Wu. Robust and lossless fingerprinting of deep neural networks via pooled membership inference. *IEEE International Conference on High Performance Computing and Communications*, pp. 1042-1049, 2022.

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