

# Hang ZHOU

## Curriculum Vitae

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## Education

- 09/2015– **PhD of Cyberspace Security**, University of Science and Technology of China.  
07/2020 School of Cyberspace Security.
- 09/2015– **Master of Cyberspace Security**, University of Science and Technology of China, *GPA – 3.81/4.3*.  
08/2017 School of Information Science and Technology.
- 09/2011– **Bachelor of Communication Engineering**, Shanghai University, *GPA – 3.66/4.0*.  
06/2015 School of Communication & Information Engineering.

## PhD Dissertation

Title *Research on Models and Methods of 3D Steganography*

Supervisors Professor Nenghai Yu & Professor Weiming Zhang

Description This dissertation develops steganography and steganalysis algorithms for 3D meshes and textures.

## Experience

- 01/2021– **Postdoc Fellow**, GRUVI LAB, Simon Fraser University, Vancouver.  
Present Collaborated with Distinguished SFU Professor Hao (Richard) Zhang. Research in 3D vision problems.
- 10/2017– **Research Intern**, MACHINE LEARNING GROUP, Microsoft Research Asia, Beijing.  
01/2018 Supervised by Taifeng Wang. Research in generative adversarial networks for image steganography.

## Research

Deep Learning & 3D Vision

Trustworthy Machine Learning

Steganography & Watermarking

## Publications

- ★ **Hang Zhou**, Weiming Zhang, Kejiang Chen, Weixiang Li, Nenghai Yu, Three-Dimensional Mesh Steganography and Steganalysis: A Review, *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 2021.

- ★ **Hang Zhou\***, Dongdong Chen\*, Jing Liao, Kejiang Chen, Xiaoyi Dong, Kunlin Liu, Weiming Zhang, Gang Hua, Nenghai Yu, LG-GAN: Label Guided Adversarial Network for Flexible Targeted Attack of Point Cloud-based Deep Networks, *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2020.*
- ★ **Hang Zhou**, Kejiang Chen, Weiming Zhang, Han Fang, Wenbo Zhou, Nenghai Yu, DUP-Net: Denoiser and Upsampler Network for 3D Adversarial Point Clouds Defense, *IEEE/CVF International Conference on Computer Vision (ICCV), 2019.*
- ★ **Hang Zhou**, Kejiang Chen, Weiming Zhang, Chuan Qin, Nenghai Yu, Feature-Preserving Tensor Voting Model for Mesh Steganalysis, *IEEE Transactions on Visualization and Computer Graphics (TVCG), 2019.*
- ★ **Hang Zhou**, Kejiang Chen, Weiming Zhang, Yuanzhi Yao, Nenghai Yu, Distortion Design for Secure Adaptive 3D Mesh Steganography, *IEEE Transactions on Multimedia (TMM), 2018.*
- ★ **Hang Zhou**, Kejiang Chen, Weiming Zhang, Nenghai Yu, Comments on 'Steganography Using Reversible Texture Synthesis', *IEEE Transactions on Image Processing (TIP), 2017.*
- ★ **Hang Zhou**, Kejiang Chen, Weiming Zhang, Zhenxing Qian, Nenghai Yu, Targeted Attack and Security Enhancement on Texture Synthesis Based Steganography, *Journal of Visual Communication and Image Representation (JVCIR), 2018.*
- 2021 Jiaying Lin, Wenbo Zhou, **Hang Zhou**, Weiming Zhang, Nenghai Yu, Lip Forgery Video Detection via Multi-Phoneme Selection, *International Workshop on Safety & Security of Deep Learning (SSDL), 2021.*
- ★ Huanyu Bian, Dongdong Chen, Kui Zhang, **Hang Zhou**, Xiaoyi Dong, Wenbo Zhou, Weiming Zhang, Nenghai Yu, Adversarial Defense via Self-Orthogonal Randomization Super-Network, *Neurocomputing, 2021.*
- ★ Huanyu Bian, Hao Cui, Kunlin Liu, **Hang Zhou**, Dongdong Chen, Wenbo Zhou, Weiming Zhang, Nenghai Yu, CDAE: Color Decomposition-Based Adversarial Examples for Screen Devices, *Information Sciences, 2021.*
- ★ Kejiang Chen, Yuefeng Chen, **Hang Zhou**, Chuan Qin, Xiaofeng Mao, Weiming Zhang, Nenghai Yu, Adversarial Examples Detection beyond Image Space, *International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2021.*
- 2020 Kejiang Chen, **Hang Zhou**, Dongdong Hou, Weiming Zhang, Nenghai Yu, Reversible Data Hiding in JPEG Images under Multi-Distortion Metric, *IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), 2020.*
- ★ Xiquan Guan, Weiming Zhang, Huaming Feng, **Hang Zhou**, Jie Zhang, Nenghai Yu, Reversible Watermarking in Deep Convolutional Neural Networks for Integrity Authentication, *ACM Multimedia (MM), 2020.*
- ★ Weixiang Li, Weiming Zhang, Li Li, **Hang Zhou**, Nenghai Yu, Designing Near-Optimal Steganographic Codes in Practice Based on Polar Codes, *IEEE Transactions on Communications (TCOM), 2020.*

- ★ Xiaoyi Dong, Dongdong Chen, **Hang Zhou**, Gang Hua, Weiming Zhang, Nenghai Yu, Self-Robust 3D Point Recognition via Gather-vector Guidance, *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020.
- ★ Kejiang Chen, Yuefeng Chen, **Hang Zhou**, Xiaofeng Mao, Yuhong Li, Yuan He, Hui Xue, Weiming Zhang, Nenghai Yu, Self-supervised Adversarial Training, *International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2020.
- 2019 Han Fang, Weiming Zhang, Zehua Ma, **Hang Zhou**, Shan Sun, Hao Cui, Nenghai Yu, A Camera Shooting Resilient Watermarking Scheme for Underpainting Documents, *IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)*, 2019.
- ★ Yong Zhou, Zhimin Feng, Xiaofeng Liu, **Hang Zhou**, Min Hu, Dynamic Modeling and Simulation of Magneto-rheological Damper Based on Improved RBF Neural Network, *Ship Engineering*, 2019.
- ★ Yuanzhi Yao, Weiming Zhang, Hui Wang, **Hang Zhou**, Nenghai Yu, Content-Adaptive Reversible Visible Watermarking in Encrypted Images, *Signal Processing*, 2019.
- ★ Weixiang Li, Kejiang Chen, Weiming Zhang, **Hang Zhou**, Yaofei Wang, Nenghai Yu, JPEG Steganography with Estimated Side-information, *IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)*, 2019.
- ★ Kejiang Chen, **Hang Zhou**, Weixiang Li, Kuan Yang, Weiming Zhang, Nenghai Yu, Derivative-based Steganographic Distortion and Its Non-additive Extensions for Audio, *IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)*, 2019.
- 2018 Han Fang, Weiming Zhang, **Hang Zhou**, Hao Cui, Nenghai Yu, Screen-Shooting Resilient Watermarking, *IEEE Transactions on Information Forensics and Security (TIFS)*, 2018.
- ★ Wenbo Zhou, Weixiang Li, Kejiang Chen, **Hang Zhou**, Weiming Zhang, Nenghai Yu, Controversial 'Pixel' Prior Rule for JPEG Adaptive Steganography, *IET Image Processing*, 2018.
- ★ Kejiang Chen, **Hang Zhou**, Wenbo Zhou, Weiming Zhang, Nenghai Yu, Defining Cost Functions for Adaptive JPEG Steganography at the Microscale, *IEEE Transactions on Information Forensics and Security (TIFS)*, 2018.
- ★ Han Fang, **Hang Zhou**, Zehua Ma, Weiming Zhang, Nenghai Yu, A Robust Image Watermarking Scheme in DCT Domain Based on Adaptive Texture Direction Quantization, *Multimedia Tools and Applications (MTA)*, 2018.
- ★ Mohsin Shah, Weiming Zhang, Honggang Hu, **Hang Zhou**, Toqeer Mahmood, Homomorphic, Encryption-Based Reversible Data Hiding for 3D Mesh Models, *Arabian Journal for Science and Engineering (AJSE)*, 2018.
- 2017 Ruiqi Jiang, **Hang Zhou**, Weiming Zhang, Nenghai Yu, Reversible Data Hiding in Encrypted Three-Dimensional Mesh Models, *IEEE Transactions on Multimedia (TMM)*, 2017.
- ★ Zhenxing Qian, **Hang Zhou**, Weiming Zhang, Xinpeng Zhang, Robust Steganography Using Texture Synthesis, *Intelligent Information Hiding and Multimedia Signal Processing (IIH-MSP 2017)*

- 2016 Zhenxing Qian, **Hang Zhou**, Xinpeng Zhang, Weiming Zhang, Separable Reversible Data Hiding in Encrypted JPEG Bitstreams, *IEEE Transactions on Dependable and Secure Computing (TDSC)*, 2016.
- ★ Jiajia Xu, **Hang Zhou**, Weiming Zhang, Ruiqi Jiang, Guoli Ma, Nenghai Yu, Second Order Predicting-Error Sorting for Reversible Data Hiding, *International Workshop on Digital Watermarking (IWDW 2016)*.
  - ★ Kejiang Chen, Weiming Zhang, **Hang Zhou**, Nenghai Yu, Guorui Feng, Defining Cost Functions for Adaptive Steganography at the Microscale, *IEEE International Workshop on Information Forensics and Security (WIFS 2016)*.

## Services

- ★ Reviewer for NeurIPS 2021, IJCAI 2021, CVPR 2021, AAI 2021, ICLR 2021, ICLR 2020
- ★ Reviewer for IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)
- ★ Reviewer for IEEE/ACM Transactions on Audio, Speech and Language Processing (TASLP)

## Awards & Honors

- 2021 SIGWEB Outstanding Doctoral Dissertation, ACM China
- 2020 DMFS Outstanding Doctoral Dissertation, China Society of Image and Graphics (CSIG)
- 2020 Second Prize of "Internet+" College Students Innovation and Entrepreneurship Competition, Anhui Province
- 2020 Outstanding Doctoral Dissertation, University of Science and Technology of China
- 2020 Outstanding Graduate, Anhui Province
- 2020 Outstanding Graduate, University of Science and Technology of China
- 2020 The President Scholarship, Chinese Academy of Sciences (CAS)
- 2019 First-Class Scholarship, University of Science and Technology of China
- 2019 National Scholarship for Doctoral Students, China
- 2019 (4/2520) IJCAI-2019 Alibaba Adversarial AI Challenge (AAAC2019) on Model Defence Track
- 2018 Cyberspace Security Scholarship, China
- 2018 CLP Instrument Scholarship, University of Science and Technology of China
- 2018 First-Class Scholarship, University of Science and Technology of China
- 2017 First-Class Scholarship, University of Science and Technology of China
- 2016 First-Class Scholarship, University of Science and Technology of China
- 2014 Third Prize of China University IOT Innovation and Entrepreneurship Competition Finals, China
- 2014 First Prize, Texas Instruments Cup: Shanghai Undergraduate Electronic Design Contest, Shanghai
- 2014 Guanghua Scholarship, Shanghai University
- 2014 Second Prize of University Student Electronic Design Competition, Shanghai University
- 2014 First-Class Scholarship, Shanghai University

- 2014 Academic Innovation Scholarship, Shanghai University
- 2013 Second-Class Scholarship, Shanghai University
- 2012 Special Scholarship, Shanghai University
- 2012 Self-Improvement Scholarship, Shanghai University
- 2012 Public Welfare Activities Scholarship, Shanghai University

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## Grants

- 01/2019– **Research on 3D Steganography Model and Method**, *the Fundamental Research Funds for*
- 12/2020 *the Central Universities*, No. WK6030000136.