

# Bingbing Feng

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## Research Interests

**Chaos:** Nonlinear Dynamics, Complex Networks Analysis

**Vision:** Visual Simultaneous Localization and Mapping

**Speech:** Speech Recognition, Speech Enhancement, Keyword Spotting

## Publications

1. Chengqing Li (supervisor), **Bingbing Feng**, Shujun Li, Jürgen Kurths, Guanrong Chen, “**Dynamic Analysis of Digital Chaotic Maps via State-Mapping Networks**,” [\*IEEE Transactions on Circuits and Systems I: Regular Papers\*](#), vol. 66, no. 5, pp. 1–14, 2019  
[doi](#) [Latex Source Files](#) [Code](#) **2022 IEEE Guillemin-Cauer Best Paper Award**
2. Chengqing Li (supervisor), Kai Tan, **Bingbing Feng**, Jinhu Lü, “**The graph structure of the generalized discrete Arnold Cat map**,” [\*IEEE Transactions on Computers\*](#), vol. 71, no. 2, pp. 364–377, 2022  
[doi](#) [Latex Source Files](#) **ESI Highly Cited Paper**
3. Chengqing Li (supervisor), Dongdong Lin, **Bingbing Feng**, Jinhu Lü, Feng Hao, “**Cryptanalysis of a Chaotic Image Encryption Algorithm Based on Information Entropy**,” [\*IEEE Access\*](#), vol. 6, pp. 75834–75842, 2018  
[doi](#) [Latex Source Files](#) [Code](#) **ESI Highly Cited Paper**

## Patents

1. Lirong Ye (CEO), **Bingbing Feng**, Danping Luo, “**Door Area Identification Method, Door Area Identification System and Cleaning Robot for Home Environment**,”  
*CN Patent 110,141,164 (2021)* [PDF](#)
2. Danping Luo, **Bingbing Feng**, “**Door Position Identification Method and Mobile Robot**,”  
*CN Patent 110,269,550 (2021)* [PDF](#)

## Refereed Journals

IEEE Transactions on Circuits and Systems I: Regular Papers

International Journal of Bifurcation and Chaos, World Scientific

## Education

- M.Sc.** in Computer Science and Technology 2015.09 – 2018.06  
[Xiangtan University](#), Hunan, China  
Supervisor: [Prof. Chengqing Li](#)  
Master's Thesis: [Network Analysis of Dynamics of Chaotic Systems in Digital Domain](#)
- B.Sc.** in Computer Science and Technology 2011.09 – 2015.06  
[Xiangtan University](#), Hunan, China  
Majors: Linear Algebra (100 out of 100)  
Mathematical Analysis (90 out of 100)  
Probability and Mathematical Statistics (100 out of 100)  
Complex Function and Integral Transform (99 out of 100)

## Work Experience

- **Algorithm Researcher**  
[Silver Star](#), Shenzhen, China 2018.07 – 2019.07  
Worked on VSLAM (Visual Simultaneous Localization and Mapping) for floor mopping robot.
- **Speech Recognition Algorithm Researcher**  
[eMeet](#), Shenzhen, China 2019.11 – 2022.11  
Worked on end-to-end ASR (Automatic Speech Recognition), improving AED (Attention-based Encoder-Decoder) model with chunk-wise self-attention and speech enhancement for robust streaming ASR, developing important production-oriented features ranging from ITN (Inverse Text Normalization), Punctuation Restoration, Contextual Biasing and Endpoint Detection.  
[Project](#)

## Awards

- 2022 [IEEE Transactions on Circuits and Systems Guillemin-Cauer Best Paper](#)

## Skills

- Programming: MATLAB (advanced level), Python (advanced level), C/C++ (advanced level).
- Software: LaTeX, Bash, Git.
- Languages: English (basic level), Chinese (mother tongue), Japanese (basic level).
- Hobbies: Cycling, Reading.