



天津大学

TIANJIN UNIVERSITY

中国近代第一所大学

A Brief Introduction to Center for Signal and Image Processing Tianjin University

Kaihua Liu
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Outline



- People
- Organization
- Research
- Project

1. People



● Professors (first name + second name)

Kaihua Liu (Director), Chunping Hou, Zhengxin Hou, Jichang Guo

● Associate Professors

Yuting Su, Jinghui Chu, Lu Wei, Tao Zhang, Qiang Li, Kai He, Yanwei Pang

● Lectures

Jian Wang, Shufang Zhang, Yongtao Ma, Yu Liu

● Students

~ 12 PhD candidate students

~ 50 graduate students

2. Organization



Center for Signal and Image Processing

1) Computer Vision Group

2) Multimedia Group

3) Signal Processing Group

4) DSP Group

5) Information Forensics

3. Research



1) Computer Vision Group

Faculty member: Prof. Chunping Hou (Leader) , Associate Prof. Yanwei Pang

Homepage: <http://cvl.tju.edu.cn>, <http://staff.ustc.edu.cn/~pyw>

➤ Stereo vision

Theory: Psychological stereoscopy and physiological stereoscopy

Applications: 3D TV, Video encoding

➤ Machine Learning

Theory: Subspace learning, Manifold Learning, Tensor analysis, Graphical models, Latent dirichlet allocation

Applications: Face recognition, people/pedestrian detection, background modeling, object tracking, web data mining

➤ Supported by

Two NSFC (National Natural Science Foundation of China) projects (in progress).

Young Scholar Foundation of Tianjin University.

3. Research



2) Multimedia Group

Faculty member: Prof. Jichang Guo, Dr. Yu Liu, Dr. Shufang Zhang

➤ Image & Video compression

Transcoding, Knowledge-based compression

➤ Supported by

Natural Science Foundation of Tianjin

Several industrial projects

3. Research



3) Signal Processing Group

Faculty member: Prof. Zhengxin Hou, Kai He, Qiang Li, Xiangdong Huang

➤ **Wavelet-based image processing**

➤ **Filter design**

➤ **Spectrum analysis**

➤ **Image/video inpainting**

➤ **Supported by**

National Natural Science Foundation of China

Natural Science Foundation of Tianjin

Fresh Teacher Foundation

3. Research



3) DSP Group

Faculty member: Prof. Kaihua Liu, Assoc. Prof. Jinghui Chu Dr. Yongtao Ma,

- **Software Defined Radio**
- **Radio Frequency Identification**

- **Supported by**

National Natural Science Foundation of China

Natural Science Foundation of Tianjin

3. Research



4) Information Forensic Group

Faculty member: Assoc. Prof. Yuting Su, Dr. Jian Wang, Assco. Prof. Wei Lu

- **Watermarking for Authentication**
- **Tamper Detection**
- **Detection of Forgeries in Images and Video resources**
- **Steganography and Steganalysis,**
- **Supported by**
 - National Natural Science Foundation of China
 - National High Technology Research and Development Program of China



Thanks

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