YanhuaCheng 程衍华

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EDUCATION

2012.09-Present **National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China**
M.D-Ph.D of Patter Recognition and Intelligent System, expected graduate in July 2017

2008.09-2012.07 **Department of Control Science and Engineering, Huazhong University of Science and Technology, Wuhan, China**
Bachelor of Automation

RESEARCH

2012.09-Present **2D/3D Object Recognition and Scene Understanding** **M.D-Ph.D**

- [IJCAI'2016] proposes a semi-supervised multimodal deep learning framework for RGB-D object recognition, which is capable of reducing the dependence of deep learning method on large-scale manually labeled data.
- [ICCV'2015] proposes a new similarity measure based on dense matching, through which objects in comparison are warped and aligned, to better tolerate variations. Furthermore, our approach learn to combine the appearance (RGB) and shape (depth) cues effectively to depict an object.
- [3DV'2015] integrate the advantages of the convolutional neural networks and Fisher Kernel encoding for powerful unsupervised feature learning.
- [CVIU'2015] This paper proposes a semi-supervised learning framework based on co-training for RGB-D object recognition, and apply it to fairly evaluate all state-of-the-art RGB-D features.

INTERNSHIP

2014.10-Present **Multimedia Search and Mining Group, MSRA** (Mentor：Rui Cai)

- RGB-D Object Recognition. Publish papers on top conference, e.g., ICCV, IJCAI, 3DV (2014.10-2016.03)
- RGB-D Scene Understanding. Focus on sematic segmentation based on deep learning. (2016.03-Present)

CONTEST & PROJECT

2014.04-2014.08 **ImageNet'14 Visual Recognition Challenge** (Python, Shell, C++, Caffe, ConvNet)

- Contest：Object recognition for 1000 classes. Training 1.2 million, Validation 50 thousand, Test 100 thousand.
- Solution：Use weakly supervised object localization from only classification labels to enhance image classification.
- Achievement：Winner on "Image Classification with Additional Training Data"

2014.04-2014.08 **SHREC'15 3D Object Retrieval Challenge** (Matlab, C++)

- Contest：RGB-D object retrieval. A real world 3D object dataset with multimodal views for training.
- Solution：Utilize CNN-SPN-RNN method for RGB-D object representation.
- Achievement：win the first place on NN and NDCG criterion for task "retrieval based on 721 images of each object"

2015.09-2015.12 **Alibaba Large-scale Image Search 2015 Challenge** (C++, Python, Caffe, OpenCV)

- Contest：Product retrieval from huge data. 200 million for training, 300 million for test during the final round.
- Solution：Employ deep learning to learn the location of product as well as global features for product retrieval.
- Achievement：Reach into the finals from 845 teams, obtain Excellent Award.

2013.03-2013.11 Mobile Terminal based Landmarks Identification (Android, Java, C++, PHP)

- Fund：16th China High-Technology Fair
- Project：Take photos via mobile phone/pad -> Receive images and recognize the name of the landmark on our server -> Return the name as well as the website of the landmark.

2012.12-2013.03 Xiyangyang Game Development based on Gesture Control (Matlab, GUI)

- Fund：Teen College of Science and Technology Innovation "Flying Plan"
- Project：Develop a Xiyangyang Game based on gesture control. I am the instructor.

2012.03－2012.11 Object Classification and Detection Visualization System (C#, OpenCV)

- Fund：Undergraduate Thesis Project in National Laboratory of Pattern Recognition, Institute of Automation.
- Project：Utilize C# to reimplement and visualize object classification model (bag-of-words model) and object detection model (deformable part based model).

JOURNALS & CONFERENCE PAPERS

- **Yanhua Cheng**, Xin Zhao, Kaiqi Huang, Tieniu Tan. Semi-supervised Learning and Feature Evaluation for RGB-D Object Recognition. CVIU 2015, Volume 139, Pages 149-160. (SCI)
- **Yanhua Cheng**, Xin Zhao, Rui Cai, Zhiwei Li, Kaiqi Huang, Yong Rui. Semi-supervised Multimodal Deep Learning for RGB-D Object Recognition. IJCAI 2016, Accepted. (EI, Top Conference)
- **Yanhua Cheng**, Rui Cai, Chi Zhang, Zhiwei Li, Xin Zhao, Kaiqi Huang, Yong Rui. Query Adaptive Similarity Measure for RGB-D Object Recognition. ICCV 2015, Pages 145-153. (EI, Top Conference)
- Chi Zhang, Zhiwei Li, **Yanhua Cheng**, Rui Cai, Yanghong Chao, Yong Rui. MeshStereo: A Global Stereo Model with Mesh Alignment Regularization for View Interpolation. ICCV 2015, Pages 2057-2065. (Oral 3.3%, EI, Top Conference)
- **Yanhua Cheng**, Rui Cai, Xin Zhao, Kaiqi Huang. Convolutional Fisher Kernels for RGB-D Object Recognition. 3DV 2015, Pages 135-143. (EI)
- **Yanhua Cheng**, Xin Zhao, Kaiqi Huang, Tieniu Tan. Semi-supervised Learning for RGB-D Object Recognition. ICPR 2014, Pages 2377-2382. (EI)

SKILLS

English： CET-6, good ability of listening, speaking, reading and writing papers in English

Coding： Familiar with Caffe, Python、Matlab、C、C++、C#，and Linux system.

Computer Vision： Proficient in 2D/3D object recognition and scene understanding
Proficient in deep learning models and bag-of-words models for vision applications.

SOCIAL & ACADEMIC ACTIVITIES

2013.09-2014.09: Member of Jiangxi Culture Association
2012.09-2013.09: Member of CASIA Football Team
2016.01-: Reviewer of ACTA AUTOMATICA SINICA
2016.02-: Reviewer of IJPRAI
My report "Talking about Research, from ICPR to ICCV", invited by Graduate Education Group of NLPR, CASIA

HONORS

Merit Student 2015 of Chinese Academy of Sciences (5%)
Excellent Award of ALISC 2015: Alibaba Large-scale Image Search Challenge
Rank 1st on NN and NDCG criterion for the second task of SHREC 2015 Track: 3D Object Retrieval Challenge
Winner on Image Classification with Additional Training Data for ILSVRC 2014 Challenge.
National Encouragement Scholarship 2010
Outstanding Individuals in College Students' Scientific and Technological Innovation Activities, HUST
Excellent Students of Qiming College, HUST