Hong Liu

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RESEARCH INTERESTS

Machine Learning and Computer Vision.
Recent works: hashing-accelerated machine learning, Riemannian-based machine learning, and adversarial deep learning.

EDUCATION

Ph.D candidate of Computer Science 2016.09 - present
Xiamen University, Xiamen, China
Advisor: Rongrong Ji

Master of Computer Science, 2012.09 - 2015.06
Jiangxi Normal University, Nanchang, China
Advisor: Jianyi Wan & Mingwen Wang

Bachelor of Electronic Information Engineering, 2008.09 - 2012.06
Hubei University of Automotive Technology, Shiyan, China

PUBLICATION

Hong Liu, Rongrong Ji, Jie Li, Baochang Zhang, Yue Gao, Yongjian Wu, and Feiyue Huang. *Universal Adversarial Perturbation via Prior Driven Uncertainty Approximation.* In Proceedings of the International Conference on Computer Vision 2019 (ICCV 2019). (Oral).

Jie Li, Rongrong Ji, **Hong Liu**, Xiaopeng Hong, Yue Gao, and Qi Tian. *Universal Perturbation Attack Against Image Retrieval.* In Proceedings of the International Conference on Computer Vision 2019 (ICCV 2019).

Huafeng Kuang, Rongrong Ji, **Hong Liu**, Shengchuan Zhang, Xiaoshuai Sun, Feiyue Huang and Baochang Zhang. *Multi-modal Multi-layer Fusion Network with Average Binary Center Loss for Face Anti-spoofing.* ACM Multimedia Conference, 2019.

Jie Hu, Rongrong Ji, **Hong Liu**, Shengchuan Zhang, Cheng Deng, and Qi Tian. *Towards Visual Feature Translation.* In Proceedings of the Conference on Computer Vision and Pattern Recognition 2019 (CVPR 2019).

Hong Liu, Jie Li, Rongrong Ji, and Yongjian Wu. *Learning Neural Bag-of-Matrix-Summarization with Riemannian Network.* In Proceedings of the Thirtieth-Three AAAI Conference on Artificial Intelligence (AAAI 2019).

Mingbao Lin, Rongrong Ji, **Hong Liu**, Xiaoshuai Sun, Yongjian Wu, and Yunsheng Wu. *Towards Optimal Discrete Online Hashing with Balanced Similarity*. In Proceedings of the Thirtieth-Three AAAI Conference on Artificial Intelligence (AAAI 2019).

Hong Liu, Rongrong Ji, Jingdong Wang, and Chunhua Shen. *Ordinal Constraint Binary Coding for Approximate Nearest Neighbor Search.* IEEE Transaction on Pattern Analysis and Machine Intelligence, Volume: 41, Issue: 4, 2019.

Hong Liu, Mingbao Lin, Shengchuan Zhang, Yongjian Wu, Feiyue Huang, and Ron-

grong Ji. *Dense Auto-Encoder Hashing for Robust Cross-Modality Retrieval*. ACM Multimedia Conference, 2018.

Mingbao Lin, Rongrong Ji, **Hong Liu**, and Yongjian Wu. *Supervised Online Hashing via Hadamard Codebook Learning*. ACM Multimedia Conference, 2018. (Oral)

Jianqiang Qian, Xianmin Lin, **Hong Liu**, Youming Deng, and Rongrong Ji. *Towards Compact Visual Descriptor via Deep Fisher Network with Binary Embedding*. ICME, 2018. (Oral)

Rongrong Ji, **Hong Liu**, Liujuan Cao, Di Liu, Yongjian Wu, and Feiyue Huang. *Towards Optimal Manifold Hashing via Discrete Locally Linear Embedding*. IEEE Transaction on Image Processing, Volume 26, Issue 11, 2017.

Hong Liu, Rongrong Ji, Yongjian Wu, Feiyue Huang, and Baochang Zhang, *Cross-Modality Binary Code Learning via Fusion Similarity Hashing*. In Proceedings of the Conference on Computer Vision and Pattern Recognition 2017 (CVPR 2017).

Hong Liu, Rongrong Ji, Yongjian Wu, and Feiyue Huang, *Ordinal Constrained Binary Code Learning for Nearest Neighbor Search*. In Proceedings of the Thirty-First AAAI Conference on Artificial Intelligence (AAAI 2017). (Oral)

Hong Liu, Rongrong Ji, Yongjian Wu, and Gang Hua, *Supervised Matrix Factorization for Cross-Modality Hashing*. In Proceeding of the 25th International Joint Conference on Artificial Intelligence (IJCAI 2016).

Hong Liu, Rongrong Ji, Yongjian Wu, and Wei Liu, *Towards Optimal Binary Code Learning via Ordinal Embedding*. In Proceedings of the Thirtieth AAAI Conference on Artificial Intelligence (AAAI 2016).

Hong Liu, Aiwen Jiang, Mingwen Wang, and Jianyi Wan, *Local Similarity Preserved Hashing Learning via Markov Graph for Efficient Similarity Search*. Neurocomputing 159 (2015): 144-150.

Pre-prints

Xiao Liu, Shengchuan Zhang, **Hong Liu**, Xin Liu, Cheng Deng, Rongrong Ji. *Cerf-GAN: A Compact, Effective, Robust, and Fast Model for Unsupervised Multi-Domain Image-to-Image Translation*. In Arxiv, 2018

RESEARCH EXPERIENCE

Research Intern 2015.07 - 2015.09
Youtu Lab, Tencent Technology (Shanghai) CO.,Ltd, China

- Query by Humming/Singing
- Large-scale Music Information Retrieval

AWARDS

National Scholarships, 2017-2018.

Our team has ranked two No.1 and two No.2 on the different Query by Humming/Singing tasks in MIREX 2015, in 16-th International Conference on Music Information Retrieval. 2015.10

The Jiangxi Provincial Government Scholarship 2015.06

The Hubei Provincial Government Scholarship (Twice). 2011, 2012

Activities

Journal Reviewer: IEEE TIP, IEEE TKDE, PR, PRL, AIRE, NEUCOM, TVCJ, PLOS ONE, SIGNAL PROCESS-IMAGE.

Conference reviewer: ICCV, ACM MM, WACV, ICMR, IEEE-ICBK.

TALKS

Supervised Matrix Factorization Hashing, The 25th International Joint Conference on Artificial Intelligence (IJCAI 2016), New York, USA, 2016.

Multi-Document Summarization, The 13 th China National Conference on Computational Linguistics (13 th CCL), Wuhan, China, 2014.

Markov Random Walk Hashing, The 20 th China Conference on Information Retrieval, Kunming, China, 2014.

PROGRAM SKILLS

Proficiency with Matlab, C/C++, Python.
Experienced in Java, C# and VHDL.