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研究方向

视频压缩, 视频增强和深度学习

——研究智能的视频压缩和视频增强系统与算法, 提出第一个基于深度学习的视频压缩编码器, 并成功应用到华为的研究系统中; 探索面向未来新媒体的数据压缩, 研究基于深度学习的视频分析和视频压缩的统一框架与联合应用。

教育经历

上海交通大学, 博士

电子系, 信息与通信工程专业, 导师: 高志勇

上海, 中国

2014.9 - 2020.6

悉尼大学, CSC 联合培养博士

导师: Dong Xu, Wanli Ouyang

悉尼, 澳大利亚

2017.9 - 2019.3

中国海洋大学, 本科

电子系, 电子信息科学与技术, GPA:3.75/4, 1/51

青岛, 中国

2010.8 - 2014.6

论文发表

1. Zhihao Hu*, Zhenghao Chen*, Dong Xu, **Guo Lu**, Wanli Ouyang, Shuhang Gu. [Improving Deep Video Compression by Resolution-adaptive Flow Coding](#) in Proceedings of the European Conference on Computer Vision (ECCV), 2020. **(CCF-B, Oral, 接受率 2%)**
2. **Guo Lu***, Chunlei Cai*, Xiaoyun Zhang, Li Chen, Wanli Ouyang, Dong Xu, Zhiyong Gao. [Content Adaptive and Error Propagation Aware Deep Video Compression](#) in Proceedings of the European Conference on Computer Vision (ECCV), 2020. **(CCF-B, Oral, 接受率 2%)**
3. **Guo Lu**, Xiaoyun Zhang, Wanli Ouyang, Li Chen, Zhiyong Gao, Dong Xu. [An End-to-End Learning Framework for Video Compression](#). in IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2020. **(CCF-A, 影响因子:17.7)**
4. **Guo Lu**, Xiaoyun Zhang, Wanli Ouyang, Dong Xu, Li Chen, Zhiyong Gao. [Deep Non-local Kalman Network for Video Compression Artifact Reduction](#). in IEEE Transactions on Image Processing (TIP), 2019. **(CCF-A, 影响因子:9.3)**
5. **Guo Lu**, Wanli Ouyang, Dong Xu, Xiaoyun Zhang, Chunlei Cai, Zhiyong Gao. [DVC: An End-to-end Deep Video Compression Framework](#). in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Long Beach, 2019. **(CCF-A, Oral, 接受率 5%)**
6. Hongwen Zhang, Jie Cao, **Guo Lu**, Wanli Ouyang and Zhenan Sun. [DaNet: Decompose-and-](#)

- aggregate Network for 3D Human Shape and Pose Estimation, in ACM Multimedia (ACM MM), 2019. (CCF-A)
7. Guo Lu, Wanli Ouyang, Dong Xu, Xiaoyun Zhang, Zhiyong Gao, Ming-Ting Sun. Deep Kalman Filtering Network for Video Compression Artifact Reduction in Proceedings of the European Conference on Computer Vision (ECCV), 2018. (CCF-B)
 8. Guo Lu, Xiaoyun Zhang, Li Chen, Zhiyong Gao. Novel Integration of Frame Rate Up Conversion and HEVC Coding based on Rate-Distortion Optimization in IEEE Transactions on Image Processing (TIP), 2018. (CCF-A, 影响因子:9.3)
 9. Chunlei Cai, Li Chen, Xiaoyun Zhang, Guo Lu, Zhiyong Gao, A Novel Deep Progressive Image Compression Framework, in Picture Coding Symposium (PCS), 2019.
 10. Chunlei Cai, Guo Lu, Qiang Hu, Li Chen, Zhiyong Gao. Efficient Learning Based Sub-pixel Image Compression, in CVPRW, 2019.
 11. Guo Lu, Xiaoyun Zhang, Li Chen, Zhiyong Gao. A Novel Frame Rate Up Conversion Using Iterative Non-local Means Interpolation in International Symposium on Broadband Multimedia Systems and Broadcasting (BMSB), 2017.

科研项目

- 基于深度学习的视频压缩，与华为合作，2019.9-2020.5
- 帧率提升与压缩编码的联合优化方法研究，国家自然科学基金，2018.1- 2020.6
- 帧率上变技术开发，与阿里云合作，2016.3-2016.9
- 高品质电视图像显示处理芯片研发及小批量应用，国家科技重大专项，2014.10-2015.12

获奖

- 科磊奖学金，2019
- 国家留学基金委奖学金，2017
- 山东省优秀毕业生，2014
- 一等学业奖学金，2011,2012
- 国家奖学金，2012
- 企业奖学金，2011

学术服务

审稿人.....

- IEEE Transactions on Image Processing
- IEEE Transactions on Multimedia
- IEEE Transactions on Circuits and Systems for Video Technology
- IEEE Transactions on Intelligent Transportation Systems
- IEEE Signal Processing Letter
- Computer Vision and Image Understanding
- Multimedia Tools and Applications
- AAAI-2020
- NeurIPS

学术汇报.....

- IEEE International Conference on Advanced Video and Signal-based Surveillance, Tutorial on ***Deep Learning for Video Compression and Understanding***, Taipei, 2019.
- IEEE Conference on Computer Vision and Pattern Recognition, Oral Presentation on ***DVC: An end-to-end deep video compression framework***, LA, USA, 2019.
- VALSE(视觉与学习青年学者研讨会), Spotlight Presentation on ***DVC: An end-to-end deep video compression framework***, Hefei, China, 2019.

学术合作

- **Dong Xu**, 教授, IEEE Fellow, 悉尼大学, dong.xu@sydney.edu.au
- **Wanli Ouyang**, 副教授, 悉尼大学, wanli.ouyang@sydney.edu.au
- **Ming-Ting Sun**, 教授, IEEE Fellow, 华盛顿大学, mts@uw.edu
- **高志勇**, 教授, 上海交通大学, zhiyong.gao@sjtu.edu.cn