Runjia Lin

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Education

Dalian University of Technology, International School of Information Science & Engineering

BE, Software Engineering | BA, Japanese Language   Sep 2018 – Present

Cumulative GPA: 90.1/100, 3.77/4.0

Selected Courses: Computer Vision 100, Machine Learning 99, Calculus 98, Probability Theory 92

Research Experiences

Lab of Geometric Computing and Digital Media Technology, DUT

Supervisor: Dr. Jinyuan Liu, Prof. Xin Fan   Jun 2021 – Present

Focus*:* Infrared and Visible Image Fusion

1. J. Liu, **R. Lin**, X. Fan and R. Liu. **"MACFuse: Multi-level Attention-guided Contrastive Learning for Infrared and Visible Image Fusion"** [page][code]
   - We propose a multi-level attention module to include high-level features from the source image;
   - To the best of our knowledge, this is the first attempt to introduce contrastive learning to image fusion field. The salient mask-based guidance entitles our fusion to hold both-side modalities;
   - A self-adaptive learning is devised to automatically adapts to the characteristics of source images;
   - This work is to be submitted to IEEE TIP .

Key Laboratory for Ubiquitous Network and Service Software of Liaoning Province, China

Supervisor: Prof. Risheng Liu   Sep 2020 – Jul 2021

Focus: Low-level vision (Underwater Image Enhancement, Image Dehazing)

1. **Enhancing Underwater Image via Fusion and Contrastive Learning**
   - Propose a GAN structure with gated fusion (TIP'20) as its generator, with contrastive learning;
   - Combining GAN loss and contrastive loss can recover the image from both pixel and feature level;
   - Quantitative results indicate a 15% rise on PSNR against SOTA methods.

2. **A Content-Based Image Retrieval System with Generalized-Mean Descriptor**
   - Adopt the generalized-mean descriptor (TPAMI'18) to measure the image feature for matching;
   - Utilize the LSHash algorithm to encode, and create a simple interface using PyQT.

Publication

1. **R. Lin**, J. Liu, R. Liu and X. Fan, "Global Structure Guided Learning Framework for Underwater Image Enhancement," The Visual Computer, 2021. ***Please note that this work is under peer-review (minor revision).*** [pdf][page][code]

Honors and Awards

1. DUT Scholarship for Academic Excellence **(Top 6%**, 2018, 2019, 2020)
2. Excellent Merit Student in DUT (2019)
3. Sino-Japanese Student Exchange Program ([SJ-SEP](#)), Outstanding Volunteer

Skill Sets

Natural language: English (TOEFL 96, S24, W25), JLPT N1 (147/180), Chinese (Native)

Programming: Python (PyTorch, OpenCV, visdom, etc.), C++, MATLAB, LaTeX, Linux (Shell)