YU WANG

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EDUCATION

Jilin University, Changchun *September 2019 - Present*
M.Eng. in Computer Science & Engineering
Research Focus: Computer Vision, Image Fusion, Optimization, Sparse Representation
GPA: 3.37 (Top 5%)

Chengdu University of Technology, Chengdu *September 2014 - June 2018*
B.Eng. in Information Engineering
Related Subjects: C/C++ Program Design, Operating System, Computer Network ...
GPA: 3.0

RESEARCH EXPERIENCE

Multi-focus Image Fusion Project *October 2020 - January 2021*
A fusion framework based on a pixel level focus measure *First author*

- **Objective:** We aim to alleviate the effect of partial focus by producing an all-focus image from multiple source images with the same scene but different focused objects. In this project, we rethink the defects of block effects caused by the existing focus measurement, and then attempt to propose a new measurement to significantly improve the performance and robustness of the model.
- **Results:** We developed a block-level and data-driven focus measure through a dictionary learning method, and extent it to pixel level by an adaptive filter. It shows a better performance in focus regions detection.
- The related paper is published and the detail can be seen in the Publication Section.

Multi-focus Image Fusion Project *December 2019 - September 2020*
A detail enhancement framework based on neural network *Co-author*

- **Objective:** The quality of fused images is vulnerable to the presence of artifacts and unclear pixels in fused images due to the insufficient capacity of existing methods and the limitation of photography equipments. We aim at tackling the problem by effectively extracting and enhancing detail information while preserving smooth regions to the greatest extent.
- **Results:** We designed a neural network to extract and enhance the details. Meanwhile, a proposed filter was attached to the appropriate positions in the network to cope with the problem of artifacts during the process.
- The related paper is submitted and under evaluating.

Medical Image Fusion Project *February 2021 - April 2021*
An adaptive multi-modal medical image decomposition model *Participated*

- **Objective:** Multimodal fusion medical images with high perceptual quality can break through the limitations of a single type of imaging. The fused medical images can provide a wealth of information for clinicians. Our goal is to decompose the source image into different scales to extract important information about the lesion.

- **Results:** A method based on adaptive filtering and optimization function is designed, which can decompose source images according to the contents. The optimization function replaces the traditional iterative filtering framework to avoid the phenomenon of excessive smoothness of the image.
- The related paper is under major revision.

B.Eng Thesis *October 2017 - March 2018*
A face-recognition neural network

- **Objective:** Facial recognition system typically using the human faces extracted from images or videos to match against the faces stored in database. The objective of this thesis is to implement this task via a neural network.
- **Results:** Built a command software based on a convolutional network, which can verify the identity of a person through an image or video.

ACTIVITIES

Computer and Network Technology Club *November 2014 - June 2016*
Chengdu University of Technology

- Organized many school-level activities and built a strong team, as the club leader ;
- Won the Excellent Club President Prize at 2016.

PUBLICATION

Yu Wang, Xiongfei Li, Rui Zhu, Zeyu Wang, Yuncong Feng and Xiaoli Zhang, A Multi-Focus Image Fusion Framework Based on Multi-Scale Sparse Representation in Gradient Domain, *Signal Processing.* (2021) 108254. doi: 10.1016/j.sigpro.2021.108254 (IF: 4.662)

HONORS AND AWARDS

First Class Graduate Student Scholarship, Jilin University. (Top 5%)	*October 2020*
Excellent Graduate Student, Jilin University. (Top 5%)	*October 2020*
Academic Scholarship, Jilin University. (Top 40%)	*October 2020*
Academic Scholarship, Jilin University. (Top 40%)	*October 2019*

COURSEWORK AND SKILLS

Computer Languages	Matlab, Python, C/C++, Javascript, LaTex, SQL
Language	IELTS Overall Band Score 6.5
	Listening 6.5 Reading 7.5 Writing 6.0 Speaking 6.0