Remote Sensing Image Multi-scale Super-resolution via Detail Attention Adversarial Network

**Abstract**

In recent years, deep learning approaches have achieved impressive progress in the field of image super-resolution (SR) with its powerful expressive capability. However, despite these CNN-based methods can greatly improve performance, it remains challenging to recover faithful texture detail of remote sensing images. Moreover, most previous researchers train model for SR task of a specific scale, which obviously does not satisfy our needs. In this paper, we propose a novel approach, which mainly improves the previous methods in three aspects: 1) generating SR results of multiple scales in a progressive reconstruction manner; 2) using residual dense block, and add dual attention mechanism to make full use of feature information in LR; 3) exploiting adversarial learning to generate information lost in LR, further improve visual quality. The experimental results show that our method achieves superior performance of remote sensing Images on both quantity and quality.

1. Introduction
2. Methods
   1. Network Architecture
   2. Residual Dense Block
   3. Detail Attention Mechanism
   4. Perceptual Loss
3. Experiments
   1. Training Setting
   2. Ablation Experiments
   3. Comparison Experiments

Quantitative

Qualitative

1. Conclusion
2. Reference