

## Self-Attention Mechanism for Target Hiding Based on Satellite Images

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**Abstract :** Remote sensing data can provide support for decision-making in disaster assessment or disaster relief. The traditional processing methods of sensitive targets in remote sensing mapping are mainly based on manual retrieval and image editing tools, which are inefficient. Methods based on deep learning for sensitive target hiding are faster and more flexible. But these methods have disadvantages in training time and cost of calculation. This paper proposed a target hiding model Self Attention (SA) Deepfill, which used self-attention modules to replace part of gated convolution layers in image inpainting. By this operation, the calculation amount of the model becomes smaller, and the performance is improved. And this paper adds free-form masks to the model's training to enhance the model's universal. The experiment on an open remote sensing dataset proved the efficiency of our method. Moreover, through experimental comparison, the proposed method can train for a longer time without over-fitting. Finally, compared with the existing methods, the proposed model has lower computational weight and better performance.

**Keywords :** remote sensing mapping, image inpainting, self-attention mechanism, target hiding

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