**What is the original contribution of this work, and why it is important and useful?**

**Answer**:

This study proposes a new algorithm specifically designed to detect images generated by various types of Generative Adversarial Networks (GANs), significantly improving detection accuracy. The algorithm demonstrates good adaptability, effectively handling images generated by different GANs. Additionally, we provide an in-depth analysis of the detection principles, revealing the unique characteristics of GAN-generated images, thereby enriching the relevant theoretical research.

With the widespread application of GAN technology, accurately detecting generated images is crucial for maintaining the authenticity of information. This work helps identify and mitigate the use of GAN-generated images for spreading false information, advancing research and applications in the field of image detection. Furthermore, by disseminating our research findings, we can enhance public awareness of GAN-generated content and promote rational discussions about emerging technologies.

**What is the validation of your contribution?**

**Answer:**

This study utilized two publicly available datasets to test the algorithm, both containing various GAN-generated images. The experimental results demonstrate the algorithm's effectiveness.

**What is the most closely related work (by yourself or others), and how does this submission improve on those earlier results?**

**Answer:**

This study does not focus on any specific related works but addresses the shortcomings of earlier research. Previous detection algorithms relied on artifacts to detected GAN-generated images, which often led to overfitting due to the differences in artifacts among various generated images, resulting in weak generalization. In contrast, this study leverages statistical features and uses neural networks to learn the distribution characteristics of the data, rather than relying on artifacts for detection. The results indicate that this approach is highly effective.

**Which category would your paper best fall into?:**

**Answer:**

This study would best fall into the categories of Computer Vision and Machine Learning, specifically focusing on Image Generation Detection or Adversarial Learning. It addresses the challenges of detecting images generated by GANs, making it relevant to both theoretical and applied aspects of these fields.