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LEVERAGING CLOUD COMPUTING TO OVERCOME THE COMPUTATIONAL CHALLENGES OF GAN TRAINING

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ABSTRACT

The rapid development of Generative Adversarial Networks (GANs) has opened new frontiers in machine learning, but training these models remains computationally demanding, often requiring significant hardware resources and time. Cloud computing offers scalable resources, flexibility, and cost-effectiveness, making it an attractive solution for overcoming these challenges. This paper explores how cloud-based platforms can address the computational bottlenecks in GAN training, with a focus on enhancing model performance, reducing training time, and optimizing resource usage. By analyzing various cloud deployment models, from public to private clouds, the paper highlights the key advantages and considerations for leveraging cloud computing in GAN-based applications. The study also examines cloud-specific tools and services that streamline the process of training, fine-tuning, and deploying GANs in real-world scenarios.

KEYWORDS: *Generative Adversarial Networks, Cloud Computing, GAN Training, Computational Challenges, Cloud Platforms, Scalability, Cloud Deployment, Resource Optimization.*

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