

**IMPLEMENTASI METODE *GENERATIVE ADVERSARIAL NETWORK*  
DENGAN MODEL MOBILENET UNTUK PENINGKATAN KUALITAS  
RESOLUSI CITRA**

**SKRIPSI**

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Sebuah skripsi yang diajukan untuk memenuhi salah satu syarat memperoleh gelar  
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# **IMPLEMENTASI METODE *GENERATIVE ADVERSARIAL NETWORK* DENGAN MODEL MOBILENET UNTUK PENINGKATAN KUALITAS RESOLUSI CITRA**

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## **ABSTRAK**

Informasi yang detail dari citra dengan resolusi tinggi sangat dibutuhkan ketika akan dilakukan analisis terhadap konten yang terkandung dalam citra tersebut. Namun, terkadang citra memiliki resolusi rendah sehingga citra tersebut sulit untuk diinterpretasikan. Berdasarkan permasalahan tersebut, maka dilakukan penelitian mengenai peningkatan kualitas resolusi citra. Penelitian yang dilakukan berdasarkan pendekatan *Super Resolution* (SR) dengan melakukan modifikasi pada metode *Super Resolution Generative Adversarial Network* (SRGAN) yang digunakan sebagai *baseline*. Modifikasi yang dilakukan yaitu berupa penggabungan metode SRGAN dengan model MobileNet dengan mengubah lapisan *residual block* pada metode SRGAN dan mengubahnya dengan lapisan *depthwise residual block* yang merupakan implementasi dari model MobileNet. Dalam penelitian yang telah dilakukan, metode yang diusulkan dapat meningkatkan efisiensi pada *time computation*. Hal ini dibuktikan dengan hasil eksperimen yang mengalami peningkatan sebesar 25% pada *time computation* mengungguli metode *baseline*.

Kata Kunci: *Super resolution; generative adversarial network; residual block; mobilenet*

**IMPLEMENTATION OF GENERATIVE ADVERSARIAL NETWORK  
METHOD WITH MOBILENET MODEL FOR IMPROVING THE QUALITY  
OF IMAGE RESOLUTION**

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**ABSTRACT**

*Detailed information on high-resolution images is necessary when we will analyze the content in the images. However, sometimes the image has a low resolution so that the image difficult to interpret. Based on these problems, a study was conducted on improving the quality of image resolution. The research was conducted based on the Super Resolution (SR) approach by making modifications to the Super Resolution Generative Adversarial Network (SRGAN) method which was used as the baseline. The modification made is in the form of combining the SRGAN method with the MobileNet model by changing the residual block layer in the SRGAN method and the block residual layer which is an implementation of the MobileNet model. In the research that has been done, the proposed method can increase the efficiency of the computation time. It has proved by the results of experiments that have increased by 25% when computing outperformed the baseline method.*

*Keywords: Super resolution; generative adversarial network; residual block; mobilenet*

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