



**PROJECT REPORT**  
**Comparison of Midpoint Filter and Harmonic**  
**Mean Filter on Ultrasonography Image Reduction**

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## APPROVAL AND RATIFICATION PAGE

Comparison of Midpoint Filter and Harmonic Mean Filter on Ultrasonography

Image Reduction


by

Deni Andika – 15.K1.0043

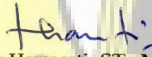
This project report has been approved and ratified  
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
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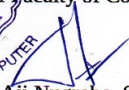
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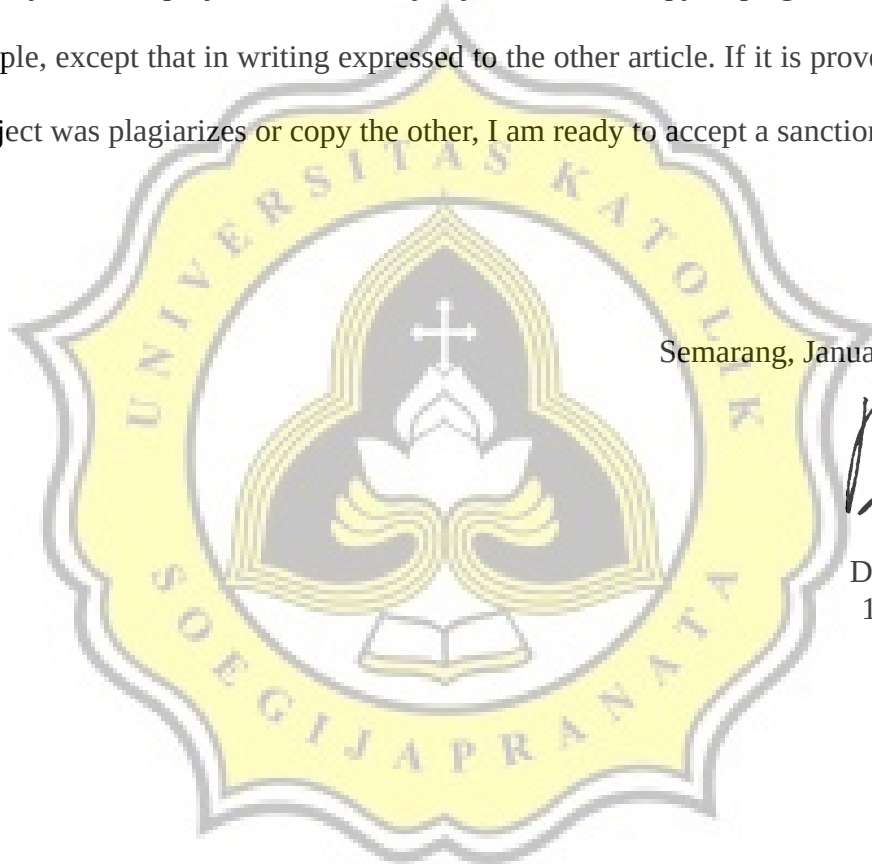
## STATEMENT OF ORIGINALITY

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Semarang, January, 8, 2020

A handwritten signature in black ink, appearing to read "Deni", is written over the right side of the logo.

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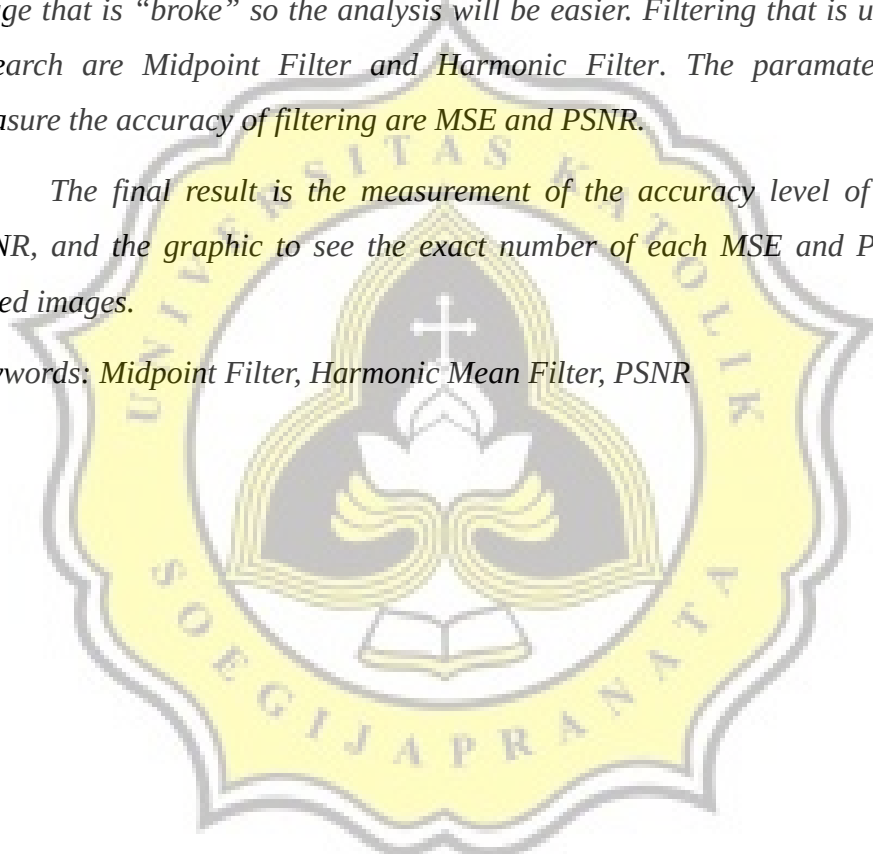
## ABSTRACT

*USG is one way to diagnose diseases in the body with a non-invasive method. The USG images that are interfered by the bad quality or noise can also distract the medical analysis. Noise can be occurred by the decrease of resolution or kontras, also the damage of the used devices.*

*The problem above can be solved by image filtering. It is to correct the image that is “broke” so the analysis will be easier. Filtering that is used in this research are Midpoint Filter and Harmonic Filter. The paramater used to measure the accuracy of filtering are MSE and PSNR.*

*The final result is the measurement of the accuracy level of MSE and PSNR, and the graphic to see the exact number of each MSE and PSNR USG tested images.*

*Keywords: Midpoint Filter, Harmonic Mean Filter, PSNR*



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