# FAULT DETECTION FOR ROTATING MACHINE USING TIME FREQUENCY LOCALIZATION METHOD

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Report submitted in partial fulfilment of the requirements for the award of the degree of Bachelor of Mechanical Engineering

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### SUPERVISOR'S DECLARATION

I hereby declare that I have checked this project and in my opinion, this project is adequate in terms of scope and quality for the award of the degree of Bachelor of Mechanical Engineering.

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#### STUDENT'S DECLARATION

I hereby declare that the work in this project is my own except for quotations and summaries which have been duly acknowledged. The project has not been accepted for any degree and is not concurrently submitted for award of other degree.

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### LIST OF SYMBOLS

w(t) the window function
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- x(t) signal to be transformed
- $X(\tau,\omega)$  Fourier Transform
  - τ Time axis
  - **ω** Frequency axis
  - t Time variable
  - *Pxx* Value for PSD
    - *F<sub>s</sub>* Sampling frequency
    - S Matrix of S\_T
    - *k* Scaling factor