

## Experimental Set-Up for Investigation of Fault Diagnosis of a Centrifugal Pump

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**Abstract :** Centrifugal pumps are complex machines which can experience different types of fault. Condition monitoring can be used in centrifugal pump fault detection through vibration analysis for mechanical and hydraulic forces. Vibration analysis methods have the potential to be combined with artificial intelligence systems where an automatic diagnostic method can be approached. An automatic fault diagnosis approach could be a good option to minimize human error and to provide a precise machine fault classification. This work aims to introduce an approach to centrifugal pump fault diagnosis based on artificial intelligence and genetic algorithm systems. An overview of the future works, research methodology and proposed experimental setup is presented and discussed. The expected results and outcomes based on the experimental work are illustrated.

**Keywords :** centrifugal pump setup, vibration analysis, artificial intelligence, genetic algorithm

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