Emerging a Novel Approach for Fault Diagnosis and Detection in Power Systems using Machine Learning Techniques -a Review Paper

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Abstract: *Condition monitoring and fault diagnosis plays a vital role in extending the lifespan of any equipment. Diagnosing faults at right time is crucial in life saving appliances and applications. Fault diagnosis for any equipment or system involves handling of large voluminous data, which is far beyond human computing capability. So deploying automatic fault diagnosis approaches would be an intelligent solution that has opened the gates for Artificial Intelligence (AI), Data Mining and Machine Learning algorithms. This work reviews the Machine Learning based fault diagnosis algorithms and models in detecting bearings, pumps and power transformer faults. A performance comparison of the models is presented based on their accuracy of fault diagnosis. This analysis also critiques the models with possible scope for improvement. The inferences from the analysis limelight the need for development of Extreme Learning (EL) models that are less dependent on explicit feature sel.*

Keywords: Bearings, Condition Monitoring (CM), Fault Diagnosis, Machine Learning, Power Transformers, Pumps

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