SREE VIDYANIKETHAN ENGINEERING COLLEGE
(AUTONOMOUS)
SreeSainath Nagar, A.Rangampet - 517 102

Department of Electrical and Electronics Engineering

PROJECT TITLE:

POWER SYSTEM FAULT DIAGNOSIS USING MACHINE LEARNING

ABSTRACT:

The power system is a very important asset of every nation. In recent days we are very much depended on electric power. Electric power consumption is the key index of nation development. Power systems have challenges such as fault diagnosis, load frequency control, unit commitment, load scheduling, optimization, etc. In the above-mentioned, fault diagnosis is one of the major issues. The stability of the power system depends on the faults in the system. If any fault occurs in the system means the corrective measure has to be taken within a few seconds else losses in the system will get increased and also the equipment in the power system will get damaged. These issues in fault diagnosis can be addressed with various traditional and artificial intelligence-based techniques.

Machine Learning is one of the better technique available for the above-mentioned issue. Machine learning uses artificial neural networks to process the data. Artificial neural networks are inspired by the human brain. These neural networks are shown to be in layers. There will be multiple layers to process the data. The output from one layer is used as input for another layer. This network structure is called an artificial neural network. Before testing the network, the training for the network is essential by using past data.

In this thesis, we will try to address the power system fault diagnosis problem, by using the deep neural networks. The simulation results concluded that Partially Recurrent Neural Network is efficient in detecting, classifying and locating the faults on the transmission lines with satisfactory performance.

PROJECT BATCH: A11

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GUIDE: Dr. S. HEMACHANDRA, *M.Tech., Ph.D*
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CO-POs-PSOs Attained:

Course Outcomes	Program Outcomes												Program Specific Outcomes			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1. knowledge on the project topic.	√												√			
CO2. analytical ability exercised in the project work.		√												√		
CO3. design skills applied on the project topic.			√											√		
CO4. ability to investigate and solve complex engineering problems faced during the project work.				√											√	
CO5. ability to apply tools and techniques to complex engineering activities with an understanding of limitations in the project work.					√											√
CO6. ability to provide solutions as per societal needs with consideration to health, safety, legal and cultural issues considered in the project work.						√										
CO7. understanding of the impact of the professional engineering solutions in environmental context and need for sustainable development experienced during the project work.							√									

CO8. ability to apply ethics and norms of the engineering practice as applied in the project work.								√									
CO9. ability to function effectively as an individual as experienced during the project work.									√								
CO10. ability to present views cogently and precisely on the project work.										√							
CO11. project management skills as applied in the project work.											√						
CO12. ability to engage in life-long leaning as experience during the project work												√					

Signature of the Guide