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# Neural Network Implementation for Battery Failure Detection in Electric Vehicles

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### Abstract



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##### Abstract:

Soil destruction and global warming have recently come to the forefront of discussion in industrialised nations as governments strive to accommodate the rising demands of their citizens. The demand for zero-emission electric cars has increased as a result of international competitiveness and technological advancements (EVs). Concerns about the high voltage of increasing numbers of electric cars are shared by an increasing number of individuals. Since the system of batteries may be at responsible for over 30% of EV accidents, it is vital to investigate how problems with LIBs are recognized. Many different kinds of problems make it hard to fix EV's LIB. Fast and precise diagnosis of battery pack problems is crucial for the immediate and ongoing safety of EV operation. Utilizing models of neural networks like multiple hidden layers (MLP) or nonlinear activation functions, this research provides a mechanism for identifying and fixing problems with electric vehicle batteries (RBF). To generate information for the BFD system, battery simulations are done in MATLAB. Accuracy may be improved by performing pre-processing steps on the information once it has been generated. After training, the two models are put to the test to see how well they perform. There are both positive and negative measures that may be used to determine which model is the best.

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In an effort to help the transportation sector become more eco-friendly and productive in the face of dwindling energy resources and rising air pollution, LIB has advocated for electric vehicles on a global scale [1]. The effectiveness of electric vehicles is determined on their batteries. As a result of its high voltage, electrical power, energy density, extended cycle life, environmental protection, and low weight [2], LIB has affected the development of electric cars around the world. For voltage and capacity, the battery pack may use 100 or 1000 cells wired in parallel and serial configurations.

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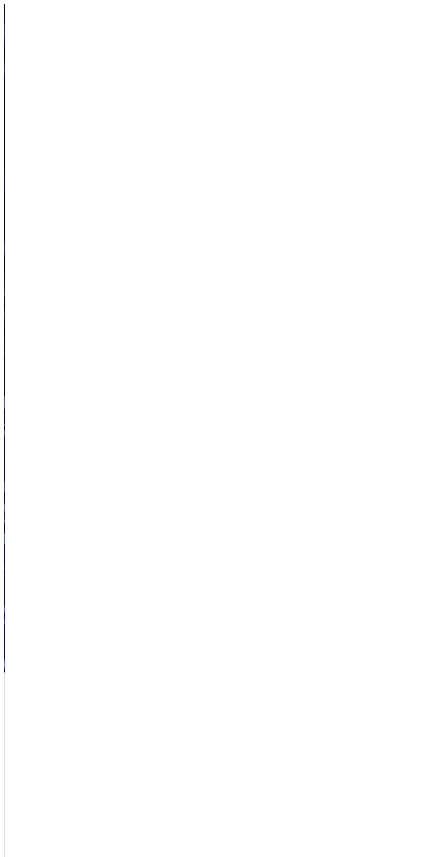
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