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(57) Abstract :

The present invention provides a system for a neural network-based diagnostics of asthma. The system is comprised of, but not limited to, an array consisting of five semiconductor gas sensors; a neural network using a backpropagation algorithm for detection. After the results, the present model ensures the proper accuracy and consistent results. Further, the sensor array along with the data acquisition system is developed for the non-invasive detection of asthma; five data sets of asthma-related toxic gas in different concentrations are obtained by a signal acquirement system having a tin oxide gas sensor array; wherein obtained data are put for training and analysis on Artificial Neural Network (ANN). Furthermore, the outcomes show good classification of asthma-associated exhaled toxic gas with the ambient air using only a few samples and also present the efficiency of Feedforward Back Propagation Neural Network on the data-driven from different gas sensors.

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