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## **Early Risk Assessment Model of Breast Cancer Using Neural Networks**

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**Abstract:** Breast cancer is one of the most common forms of cancer affecting women's health and quality of life. About one in eight women develop invasive breast cancer in their lifetime in the U.S. This high incidence leads to a need for a tool to educate people about potential factors leading to disease development to help them maintain healthy life and prevent breast cancer at the early stages. Therefore, the objective of this study is to develop a risk classification model for breast cancer development in healthy women by using multi-layer perceptron network (MLP) trained with the back-propagation (BP) algorithm. The correlation between model outputs and target outputs achieved an R value above 0.9, indicating high accuracy of the results.

*Keywords:* Breast Cancer, Risk Classification, MLP