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An effective method for predicting postpartum haemorrhage using deep learning techniques

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Abstract

Postpartum haemorrhage is a type of blood loss that occurs after the birth of a baby. When you lose more than 500 ml of blood, your blood pressure drops, and you may suffer and die as a result. Deep learning techniques can predict postpartum hemorrhage earlier. As a result, we would be able to save the human. This paper discusses various types of deep learning techniques. This paper focuses on the concept of Convolutional neural networks and divides it into two sections: ZFnet and VGG-16net. By comparing the results of two nets, we can determine which of the techniques is best for predicting postpartum hemorrhage at an earlier stage. This study will be more beneficial to pregnant women in the future. The paper focuses on two nets that are said to be more useful and to be a standardized technique that also helps to give relevant medicine to patients at the appropriate time. In this paper, the algorithm is used for the VGG-16net, and the Confusion matrix is used for both nets to improve performance. Many metrics are used in this research to improve accuracy and results. Finally, the convolutional neural network concept of VGG-16net produced better results than ZF-net.

Keywords Deep learning techniques · CNN · ZFnet · VGG-16net

1 Introduction

Postpartum haemorrhage [1, 2] is defined as excessive blood loss after the birth of a baby that exceeds 500 ml or > 1000 ml. The most common causes of postpartum hemorrhage are Tone, Trauma, Tissue, and Thrombin [3]. When a woman loses more than 500 ml of blood, her blood pressure drops, causing her to suffer and die. She was also unable to predict postpartum hemorrhage in the previous stage [4]. The current sophisticated technique has been used to reduce the risk [5, 6]. However, the death rate and ratio are due to unintentional causes [7]. There is currently no evidence of a model or technique that can help reduce the risk of postpartum hemorrhage [8].

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