Neonatal Retinopathy of Prematurity (ROP) is an eye disease which affects newborn babies born after thirty-two weeks and or with a weight of less than 1.5kg (Palmer et al., 2021).

Objectives

- To develop a Deep Learning Model to diagnose Retinopathy of Prematurity stage III Disease

Methodology

- The study used secondary data from Kaggle online database. Access to this database can be done through this link (https://www.kaggle.com/c/diabetic-retinopathy-detection/data).

Table 1

<table>
<thead>
<tr>
<th>Without Augmentation</th>
<th>With Augmentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Train</td>
<td>Test</td>
</tr>
<tr>
<td>Stage 1</td>
<td>141</td>
</tr>
<tr>
<td>Stage 2</td>
<td>796</td>
</tr>
<tr>
<td>Stage 3</td>
<td>720</td>
</tr>
</tbody>
</table>

Conclusions

- Retina Image segmentation is an important step for image preprocessing.
- This helps to increase the accuracy of the Deep learning model to disease diagnosis.
- Other methods such as transfer learning can be used to learn the features from the images and compare the results with those of images segmentation.

Bibliography


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