**Breast-cancer-classification**

Breast Cancer Classification using Densnet201Model.

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**Softwares & Environments Required**

* Python 3.9
* TensorFlow
* Matplotlib
* Scipy & Scikit-Learn
* Keras
* TQDM
* Numpy
* Pandas
* Jupiter Notebook

**Installation**

For setting the Environment in the new M1 MacBook we need to follow this [URL](https://developer.apple.com/metal/tensorflow-plugin/).

For setting the Environment in Windows machines use the following the commands:

* pip install numpy pandas scikit-image matplotlib scikit-learn keras
* jupyter notebook

## **Data**

The dataset can be downloaded from [here](https://web.inf.ufpr.br/vri/databases/breast-cancer-histopathological-database-breakhis/). This is a binary classification problem. I split the data into test and validation.

* /Users/ Desktop/Breast Cancer/data/train/benign
* /Users/Desktop/Breast Cancer/data/train/malignant
* /User /Desktop/Breast Cancer/data/validation/benign
* /Users/Desktop/Breast Cancer/data/validation/malignant

**Results**

**Accuracy**

**Chart, line chart

Description automatically generated**

**Loss/Accuracy vs Epoch**

**Chart, line chart

Description automatically generated**

### **Confusion Matrix**

**Graphical user interface

Description automatically generated**

**ROC and AUC**

**Line chart

Description automatically generated with medium confidence**