**Resume vs. Non-Resume Image Classification**

**Approach Overview:**

* **Objective:** Develop an image classification model to differentiate between resume and non-resume images.

**Dataset Details:**

* **Dataset:** Curated a diverse dataset containing resume and non-resume images.
* **Dataset Size:** Comprised a dataset of 133 images and unseen dataset size of 60 images (The dataset is relatively small).

**Model Architecture:**

* **Model Choice:** Implemented a DenseNet121 pre-trained model with customized top layers.
* **Architecture Rationale:** Chose DenseNet121 for its robust feature extraction capabilities and adaptability to image classification tasks.
* **Customized Layers:** Utilized Global Average Pooling, Dropout, Batch Normalization, and Dense layers for classification.

**Training Strategy:**

* **Data Preparation:** Augmented training images using rotation, shifting, shearing, and flipping.
* **Normalization:** Normalized pixel values between [0,1] to enhance model convergence.
* **Training Process:** Employed Adam optimizer with a learning rate of 0.001 and utilized early stopping to prevent overfitting.
* **Epochs:** Trained the model for 25 epochs.

**Evaluation Metrics:**

* **Model Evaluation:** Evaluated model performance on a separate test set.
* **Performance Metrics:** Measured accuracy, precision, recall, and F1-score for comprehensive evaluation.
* **Confusion Matrix:** Generated and analysed the confusion matrix for deeper insight into model performance.

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