CELEBRITIES PREDICITON

**Model Selected**

Convolutional Neural Network (CNN) is the chosen model The dataset consists of images of different celebrities like Lionel Messi, Maria Sharapova, Roger Federer, Serena Williams, and Virat Kohli. The code performs the following steps:

1. **Data Preparation**
   * Loads images from the specified directory for each celebrity.
   * Resizes the images to a specified size (128x128) and converts them to numpy arrays.
   * Appends the images to the dataset and assigns labels (0 to 4) based on the celebrity class.
2. **Data Splitting**
   * Splits the dataset into training and testing sets using `train\_test\_split`.
3. **CNN Model Creation**
   * Creates a sequential model using Keras with convolutional layers, max-pooling layers, and dense layers.
   * Uses ReLU activation functions for convolutional and dense layers.
   * Compiles the model with the Adam optimizer and sparse categorical crossentropy loss.

**4. Training**

* + Trains the model on the training data for 20 epochs with a batch size of 32.
  + Validates the model on a validation split of the training data.

**5. Plots and Saves Accuracy/Loss**

* Plots and saves the training and validation accuracy over epochs.
* Plots and saves the training and validation loss over epochs.

**6. Model Evaluation**

* + Evaluates the model on the test data and prints the accuracy.

**7. Model Prediction**

* + Uses the trained model to make predictions on the test data.
  + Converts the predicted labels to a Pandas Series for further analysis.