Callback Functions

Assignment Questions

PW SKILLS

Q1. Install and load the latest versions of TensorFlow and Keras. Print their versions.

Q2. Load the Wine Quality dataset and explore its dimensions.

Dataset link: **https://www.kaggle.com/datasets/nareshbhat/wine-quality-binary-classification**

Q3. Check for null values, identify categorical variables, and encode them.

Q4. Separate the features and target variables from the dataframe.

Q5. Perform a train-test split and divide the data into training, validation, and test datasets.

Q6. Perform scaling on the dataset.

Q7. Create at least 2 hidden layers and an output layer for the binary categorical variables.

Q8. Create a Sequential model and add all the layers to it.

Q9. Implement a TensorBoard callback to visualize and monitor the model's training process.

Q10. Use Early Stopping to prevent overfitting by monitoring a chosen metric and stopping the training if no improvement is observed.

Q11. Implement a ModelCheckpoint callback to save the best model based on a chosen metric during training.

Q12. Print the model summary.

Q13. Use binary cross-entropy as the loss function, Adam optimizer, and include the metric ['accuracy'].

Q14. Compile the model with the specified loss function, optimizer, and metrics.

Q15. Fit the model to the data, incorporating the TensorBoard, Early Stopping, and ModelCheckpoint callbacks.

Q16. Get the model's parameters.

Q17. Store the model's training history as a Pandas DataFrame.

Q18. Plot the model's training history.

Q19. Evaluate the model's performance using the test data.

Note: *Create your assignment in Jupyter notebook and upload it to GitHub & share that uploaded assignment file link through your dashboard. Make sure the repository is public.*