Visual Insights Report – Exploratory Data Analysis (EDA)

Dataset: Iris Dataset
Tools Used: Python, Pandas, Matplotlib, Seaborn

1. Numerical Feature Distribution
Histograms show that petal length and petal width have clearer separation compared to sepal features, indicating stronger predictive power.

2. Categorical Analysis
Count plot confirms all three species (Setosa, Versicolor, Virginica) are equally distributed, indicating no class imbalance.

3. Outlier Detection
Box plots reveal minor outliers in sepal width, which are not extreme and do not require removal.

4. Correlation Analysis
Heatmap shows strong positive correlation between petal length and petal width, while sepal features have weaker relationships.

5. Feature Importance
Petal length and petal width are identified as the most important features for prediction due to strong correlation and clear class separation.

Conclusion
EDA helped understand data patterns, detect outliers, analyze correlations, and identify important features, forming a strong foundation for machine learning models.