**🎤 Slide-by-Slide Explanation Script**

**🟦 Slide 1: Title Slide – IPL Player Performance Prediction Using Machine Learning**

Good [morning/afternoon] everyone.  
I’m [Your Name], and today I’ll be presenting my machine learning project titled **“IPL Player Performance Prediction”**.  
This project focuses on predicting individual player performance—specifically **runs scored and wickets taken**—based on historical IPL data using machine learning.

**🟦 Slide 2: Dataset Overview**

The dataset I used contains **detailed IPL player statistics** across multiple seasons.  
It includes both **batting and bowling features**, such as runs scored, balls faced, strike rate, wickets taken, and more.  
Sample players in this dataset include well-known names like **MS Dhoni**, **Ruturaj Gaikwad**, and **Devon Conway**.  
This rich dataset gave me the foundation to train predictive models for both batting and bowling performance.

**🟦 Slide 3: Data Preprocessing Techniques**

Before training the model, I applied several preprocessing steps.  
First, I handled **missing values** by replacing entries like "No stats" with NaN, and then dropping rows where necessary.  
I also converted string values to **numeric formats** using pandas.to\_numeric, to ensure the data was clean for training.  
Lastly, I selected only the **most relevant features** for batting and bowling separately to improve prediction quality.

**🟦 Slide 4: Machine Learning Technique Used**

I used the **Random Forest Regressor** algorithm for this project.  
It's an ensemble model that works well with **non-linear data** and is robust to overfitting.  
It also performs well with missing values and does not require much feature scaling.  
I trained two separate models: one for **predicting runs scored**, and another for **predicting wickets taken**.

**🟦 Slide 5: Performance Metrics**

To evaluate the model performance, I used two metrics:

* **Mean Squared Error (MSE)**, which measures the average squared difference between predicted and actual values.
* **R-squared (R²) Score**, which indicates how well the model explains the variance in the data.  
  These metrics helped validate that the model was reasonably accurate for both batting and bowling predictions.

**🟦 Slide 6: Execution & Output**

Once trained, the model is executed through a **command-line interface**.  
The user enters either a **partial or full player name**, and the model searches for that player in the dataset.  
It then predicts the player's **expected runs and wickets** using the trained models.  
For example, when entering “MS Dhoni,” the model gives his likely performance stats based on past data.

**🟦 Slide 7: Conclusion & Thank You**

In conclusion, I successfully built two machine learning models to predict **individual player performance** in the IPL.  
The project involved **data cleaning, feature selection, model training, and real-time predictions**.  
In the future, I’d like to improve this by adding **live data scraping** and possibly a **web interface**.  
Thank you all for your attention — I’m happy to answer any questions you may have.