

# AGENT PERFORMANCE GRADING: OPTIMIZING CUSTOMER SERVICE



# AGENDA

Grading chat messages

Grading call voice interactions



Datastraw

# INTRODUCTION

**Importance of agent performance in customer service:**

- Direct impact on customer satisfaction and retention
- Need for systematic evaluation and improvement
- Regular evaluation and feedback enable the agent's Continuous Improvement.



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# GATHERING DATA

Collecting Chat messages

Collecting Call Recordings to analyze verbal interactions

Integration with CRM Systems:  
customer profiles, transaction histories,  
and previous interactions.



# PREPROCESSING

## Cleaning Text Data:

Noise Removal: Removing irrelevant characters, HTML tags, and special characters.

Normalization("don't" to "do not")

**Tokenization and Stopword Removal:**  
Tokenization: individual words for analysis.

Stopword Removal: Filtering out common words (e.g., "and", "the", "is").





# FEATURE EXTRACTION

## Methods for Extracting Insights from Data

Sentiment Analysis:  
Analyzing sentiment polarity  
(positive, negative, neutral)

Keyword Extraction

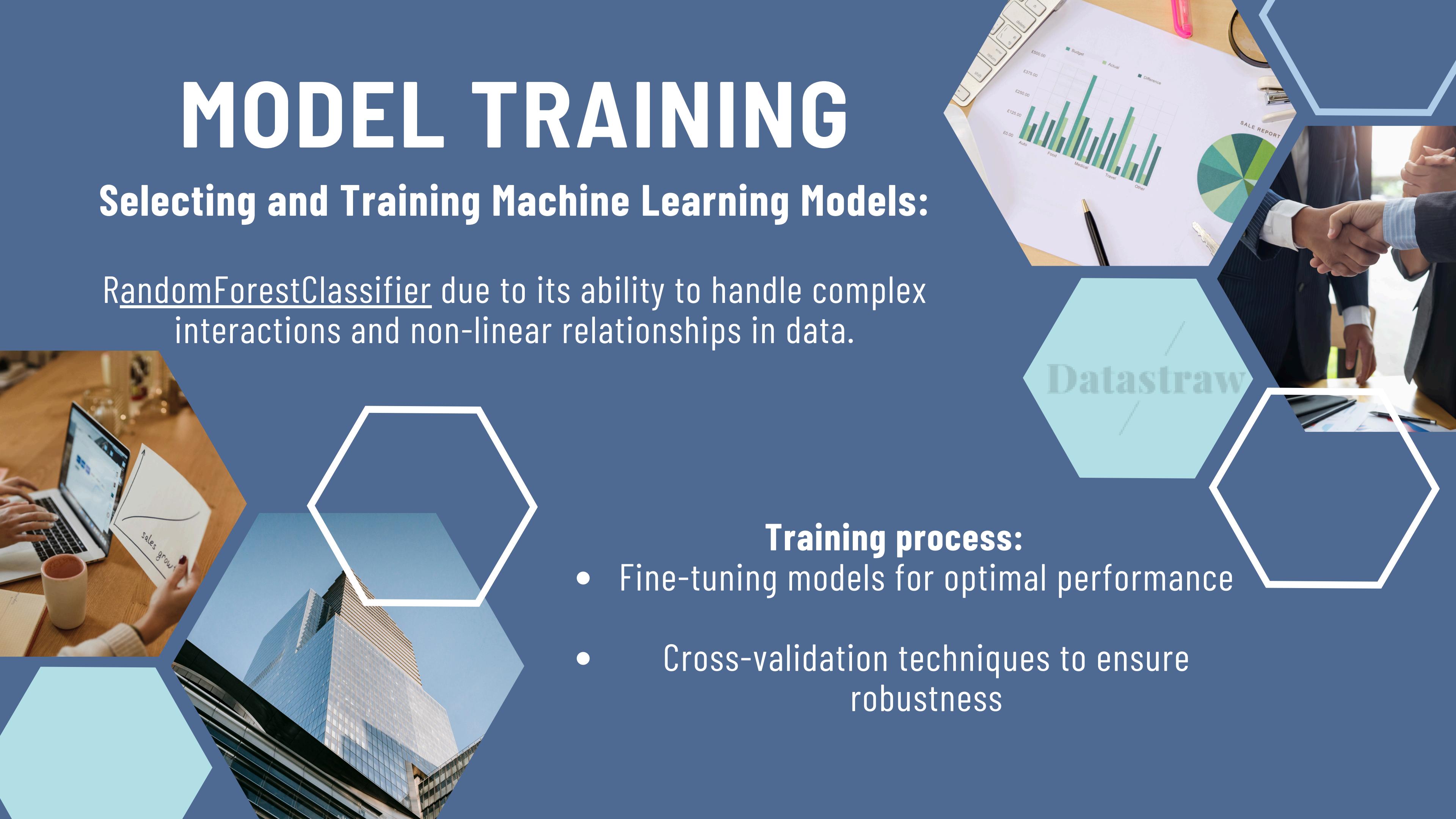
Named Entity Recognition (NER):  
names, dates, organizations, and locations.

Conversation Metrics:  
time taken to respond to customer queries,  
duration of interactions.

# MODEL TRAINING

## Selecting and Training Machine Learning Models:

RandomForestClassifier due to its ability to handle complex interactions and non-linear relationships in data.

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- Training process:**
- Fine-tuning models for optimal performance
  - Cross-validation techniques to ensure robustness



# EVALUATING MODEL PERFORMANCE

Evaluation metrics:

- Accuracy, precision, recall, and F1-score
- Visualizing results with confusion matrices and performance charts

# SCORING AND RANKING AGENTS

## Calculating Agent Performance Scores:

To rank agents effectively, assigning weights to each metric based on its importance:

Sentiment Score: 30% weight  
Resolution Rate: 30% weight  
Response Time: 20% weight  
Customer Feedback: 20% weight



## Example Calculation for Agent A:

Sentiment Score: 80%

Resolution Rate: 85%

Response Time: 70%

Customer Feedback: Positive

## Composite Score Calculation:

$$\text{Composite Score} = (0.3 \times 80\%) + (0.3 \times 85\%) + (0.2 \times 70\%) + (0.2 \times \text{Feedback Weight})$$



# PROVIDING FEEDBACK

- Offering actionable insights based on scores and rankings
- Strategies for ongoing training and skill development

**THANK YOU!**