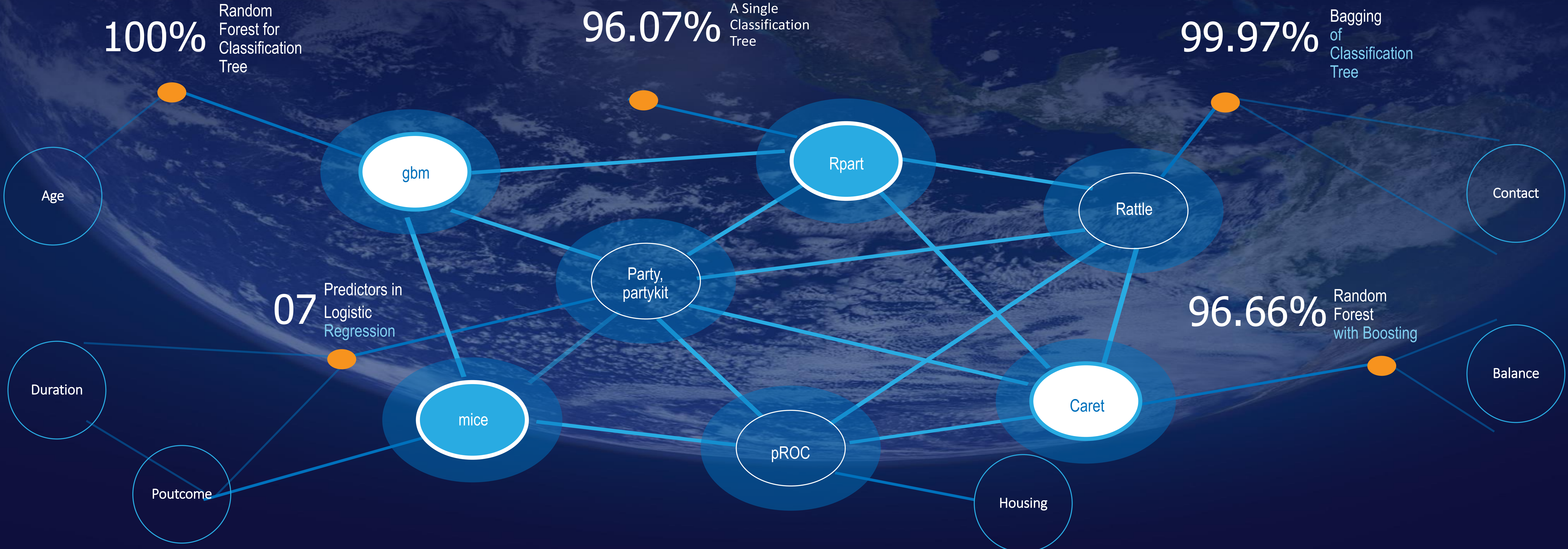


Give Your Bank Marketing a Boost with These Top-Secret Insights

(Shh...Don't Tell Your Competitors!)

Ivy Do
Subtitle: THE BANK MARKETING INSIGHT

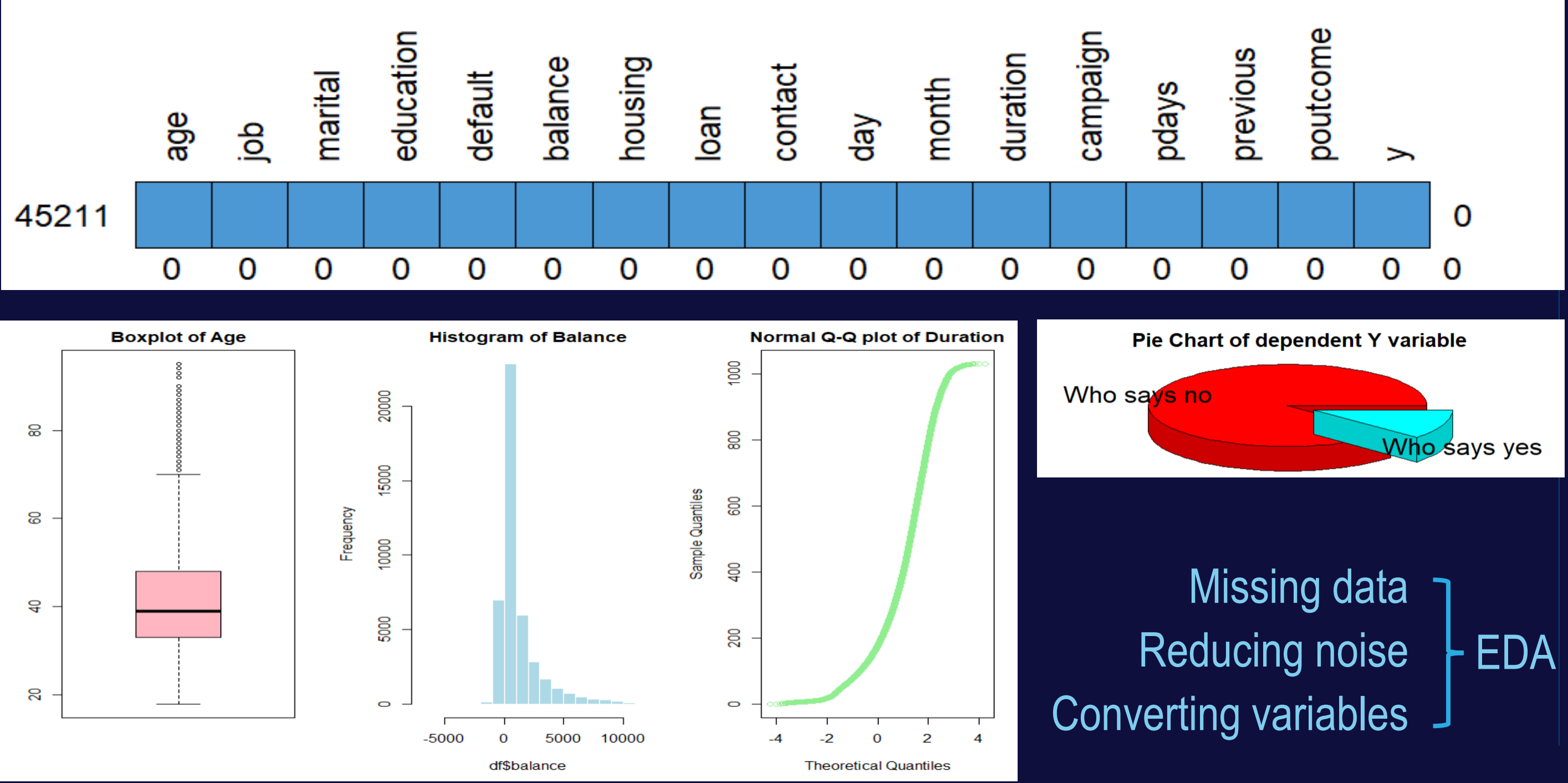


Objectives

To examine a bank's remote marketing for improved strategy and customer engagement insights.

Dataset

Retrieved from <https://archive.ics.uci.edu/ml/datasets/bank+marketing>



3

Criteria

4

Ensemble methods

11

Logistic regression models

Formulas

$$f_R = \frac{1 + \beta^2}{\beta^2 + \frac{1}{\text{Recall} + \text{Precision}}} = \frac{(1 + \beta^2) \times \text{TP}}{(1 + \beta^2) \times \text{TP} + \beta^2 \times \text{FN} + \text{FP}}$$

Results

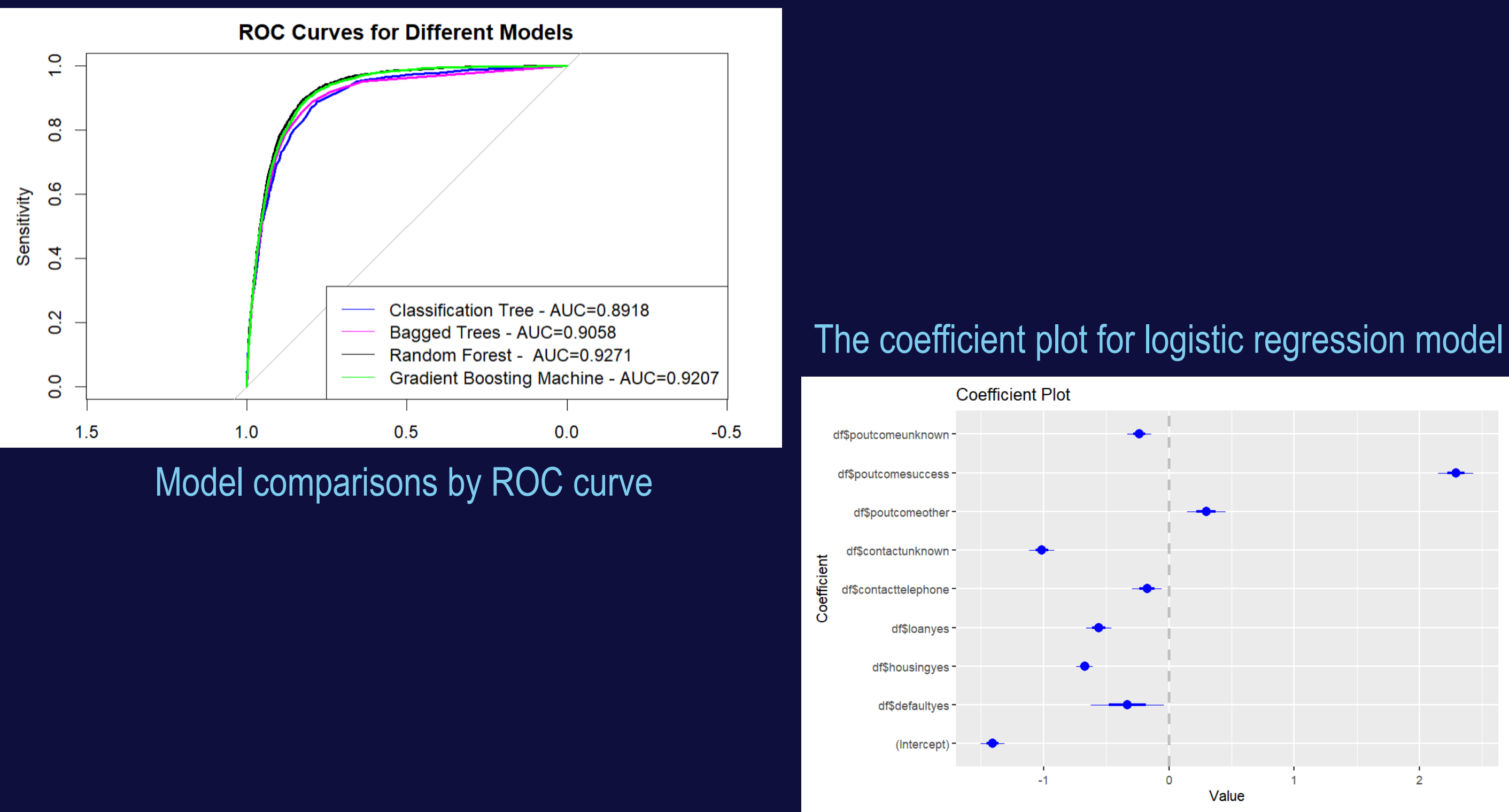
Random Forest for classification tree

$f_R = 1$

Model accuracy: 95.2%

Highly important variables:

- Age of customers
- The duration of the last calls
- The clients have housing loan



The optimal model

$y = -1.41 - 0.17\text{contacttelephone} - 0.24\text{poutcomeunknown} - 0.57\text{loanyes} - 0.67\text{housingyes} - 1.01\text{contactunknown} + 0.30\text{poutcomeother} + 2.29\text{poutcomesuccess}$

- ### Recommendations
- Identify and target clients who have housing loans.
 - Focus on older clients and those with higher account balances.
 - Investigate unknown engagement in previous campaigns for better insights.
 - Develop marketing campaigns targeting retired, student, and unemployed clients.