Bank Marketing Success
Classification problem
Rui Yuan

Clients and problem

Bank wants know about what are their target clients that are likely to subscribe bank term deposit or other financial products.

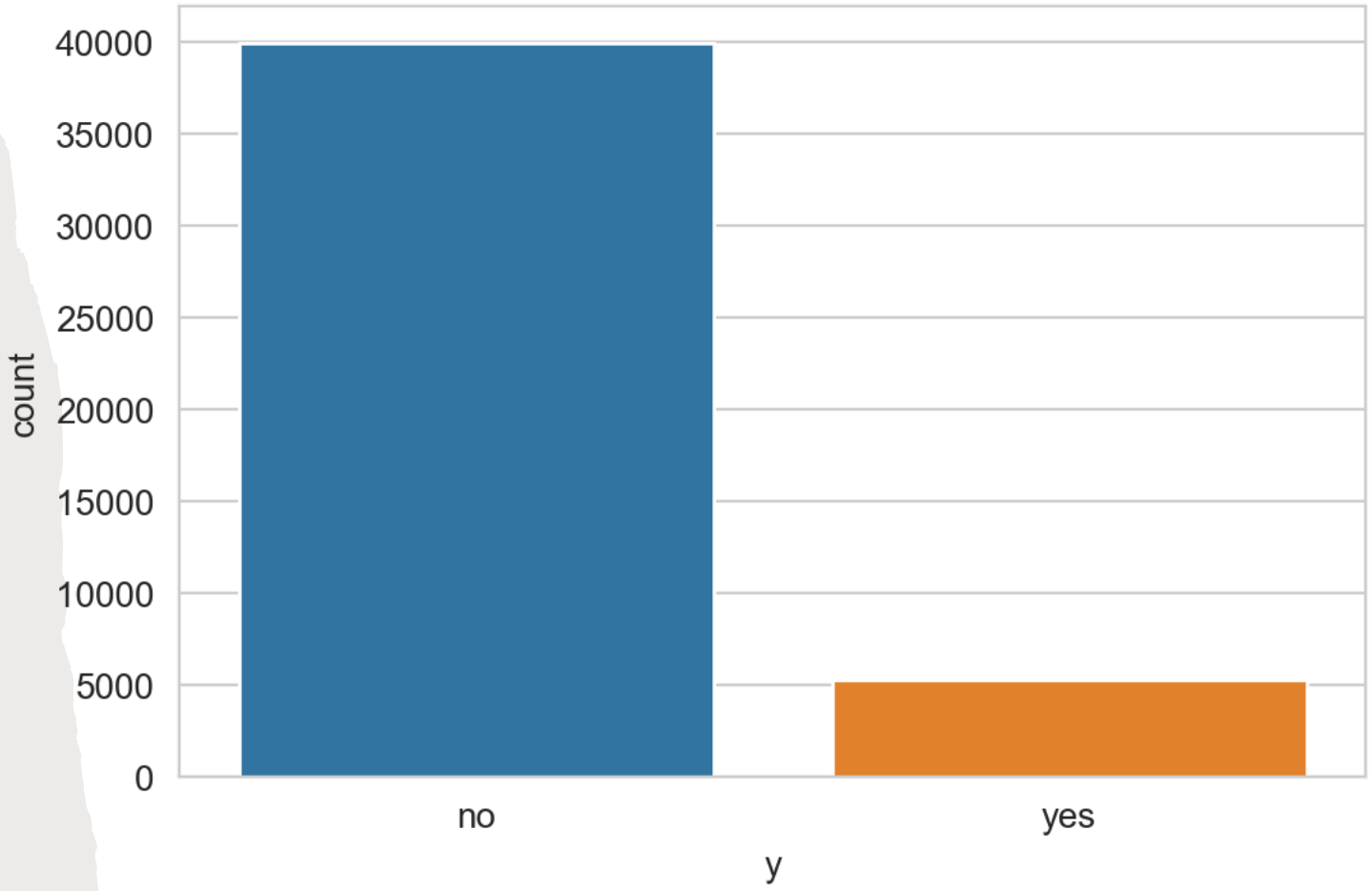
Data

- The data is about bank telemarketing which consists of clients' information, communication frequency and marketing outcome.
- 45211 rows
- Target: Whether client subcribe a term deposit (1 = yes, 0 = no)
- 15 Features: clients: age, bank balance, loan….

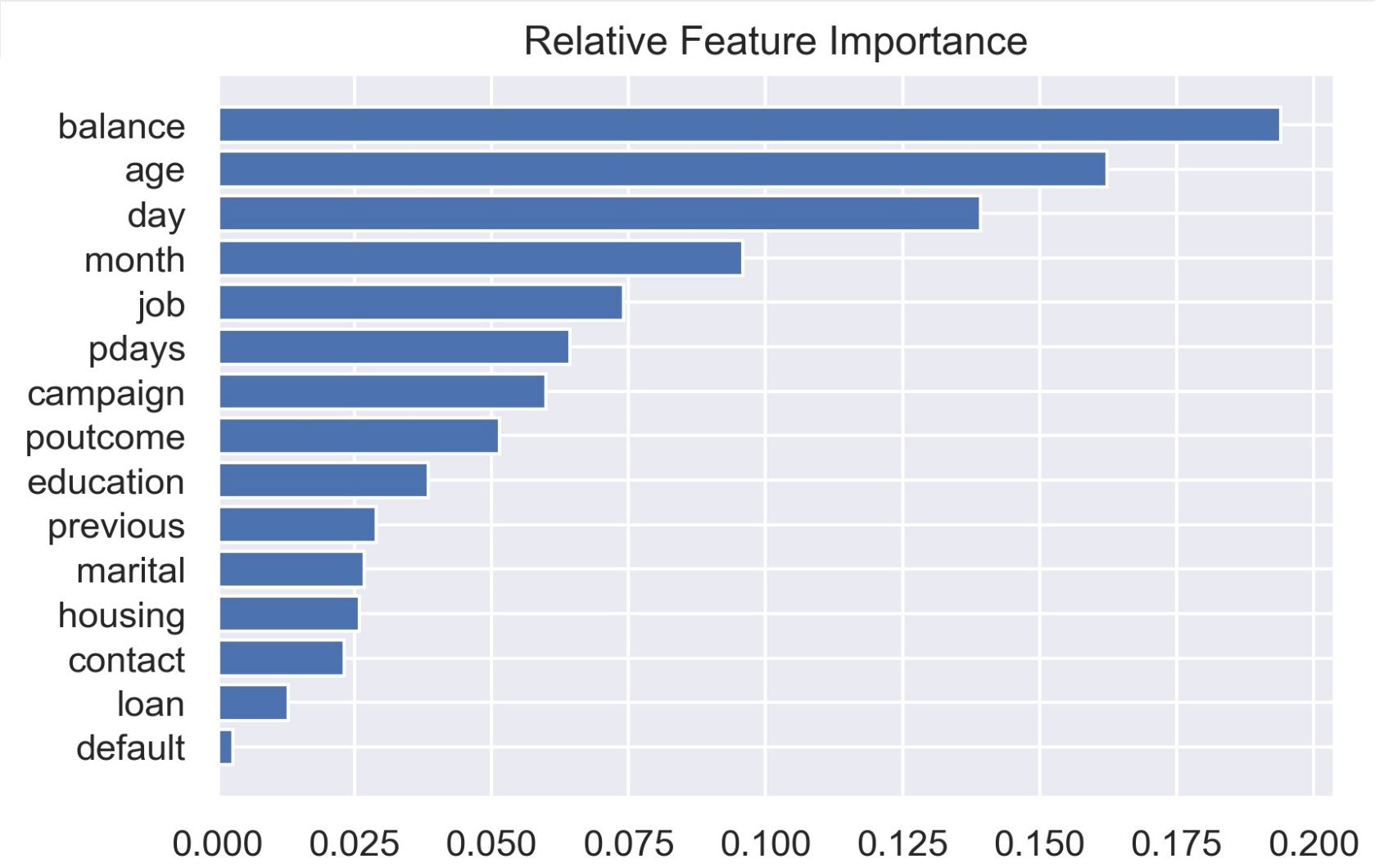
Classification Modeling Goal

- Optimization Goal: ↑ precision score on positive class (subscribe) & number of successful deals
- In Business Sense: Adjustable model depending on the business capability. I.e., how many clients bank can reach to or how many phone calls bank can do in a given period (month).

Class Distribution



Feature Importance from RF model

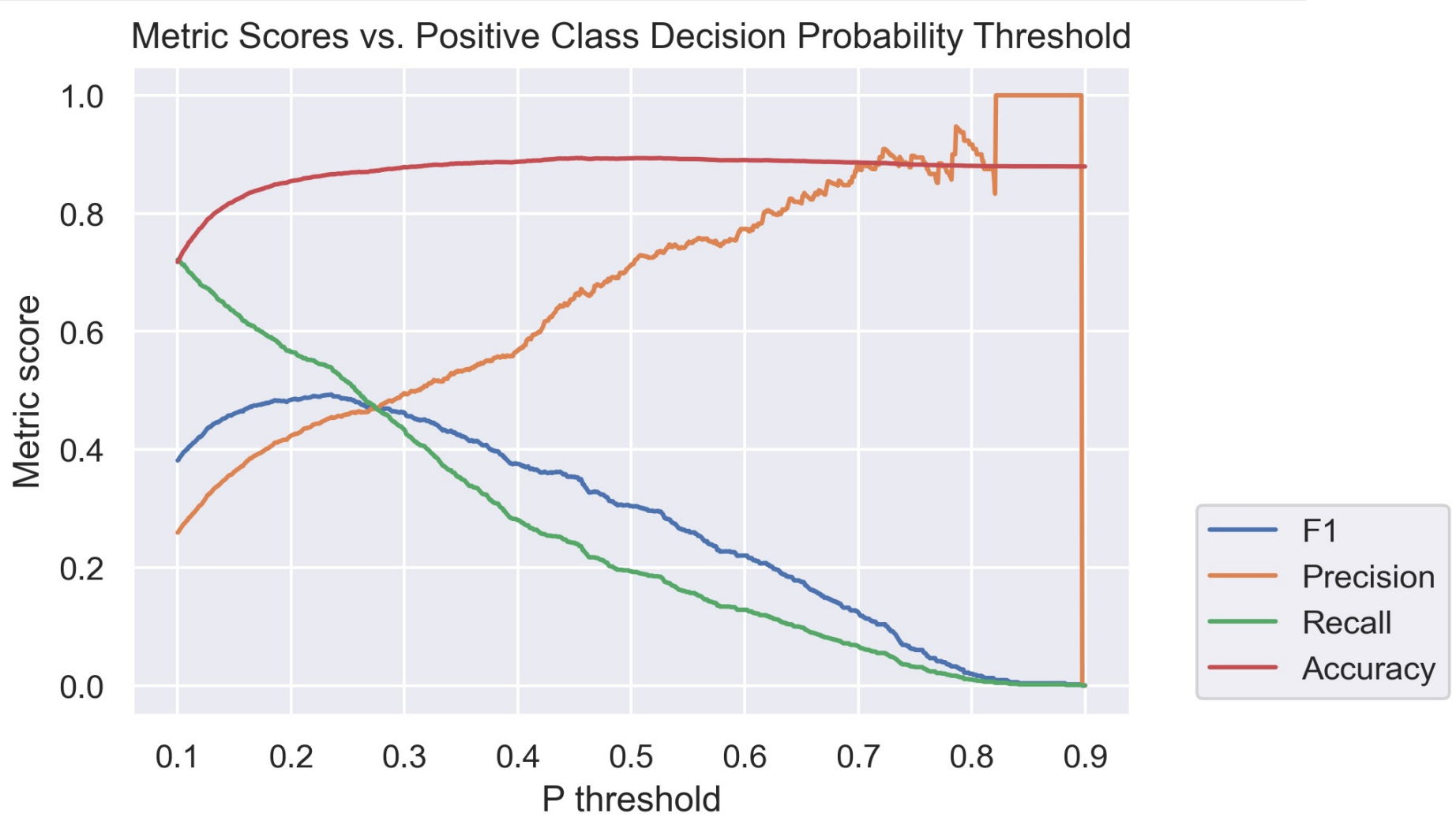


Closer look at important features

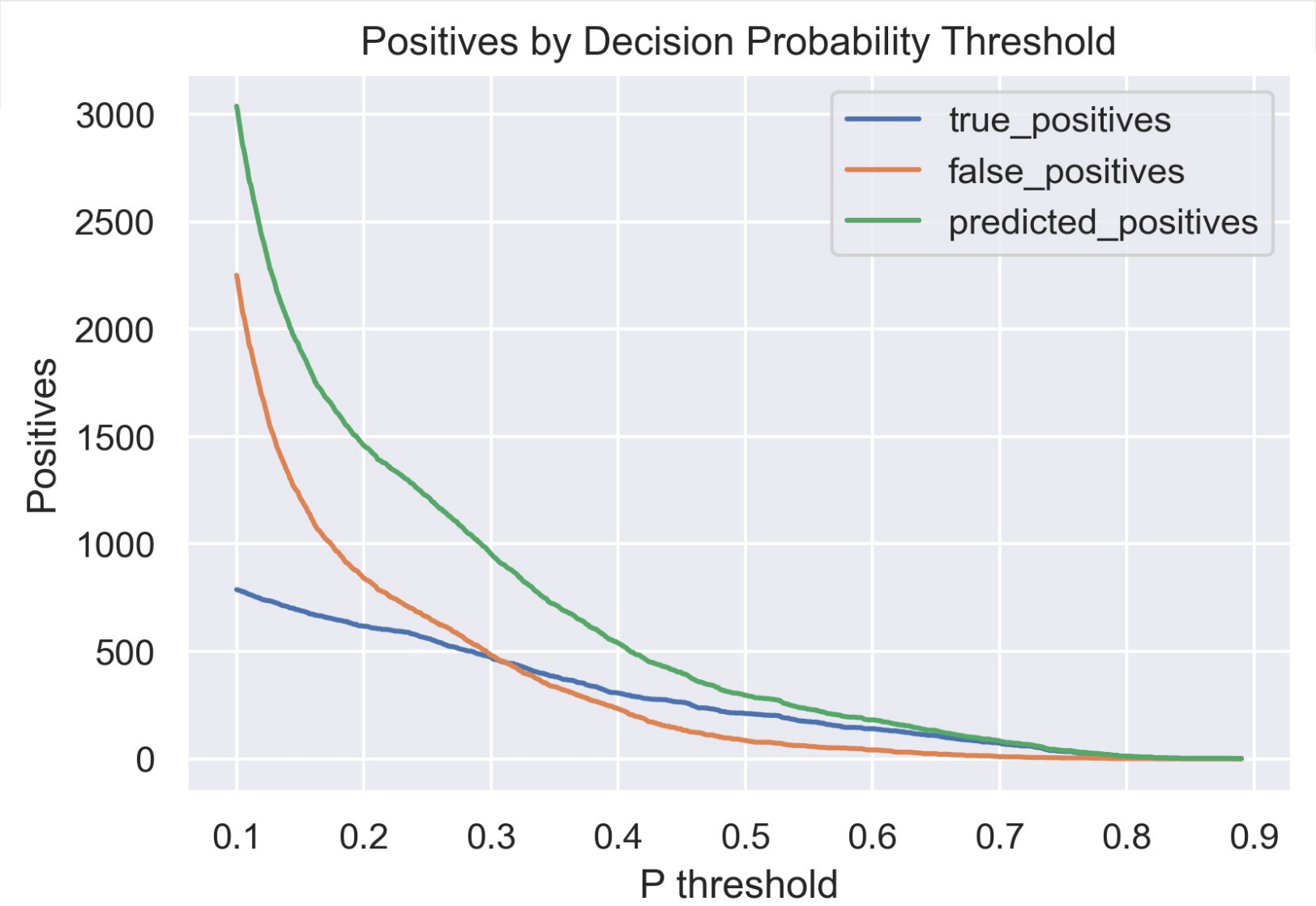
Graph idea

- Balance mean for negative and positive class ---- matplot bargrah
- Age (further classified to 20s, 30s, 40s ……--
- Job ---sns.scountplot
- Campaign(number of contacts during the campaign) ----

Solution: RF model w/ Probability Threshold Controlling



Solution: RF model w/ Probability Threshold Controlling



Appendix: Model Performance

MODEL	PRECISION SCORE ON POSITIVE CLASS	
Baseline KNN		
Tuned KNN		
Logistic Model		
Baseline Random Forest		