

HOME CREDIT SCORECARD MODEL

START

MENU

SIGN IN

◆ BY MARZA SAWALZA

MENU

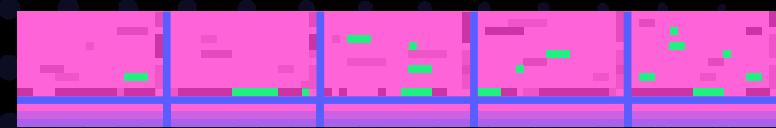
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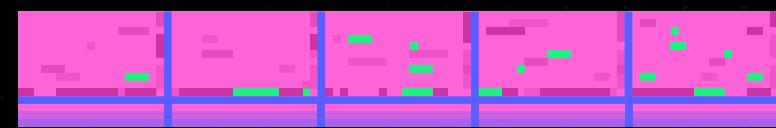
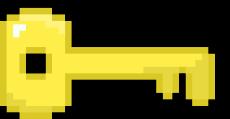
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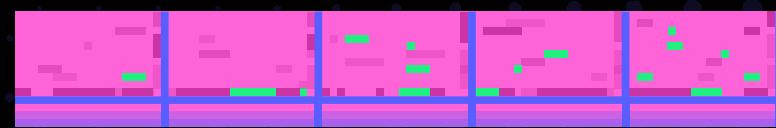
PROBLEM RESEARCH



BUSINESS INSIGHTS



MACHINE LEARNING
MODEL



BUSINESS
RECOMMENDATION

PROBLEM RESEARCH

→ MANY PEOPLE HAVE TROUBLE GETTING LOANS BECAUSE THEIR CREDIT HISTORIES AREN'T STRONG ENOUGH OR DON'T EXIST AT ALL. HOME CREDIT TRIES TO HELP MORE PEOPLE WHO DON'T HAVE BANK ACCOUNTS GET ACCESS TO MONEY BY MAKING BORROWING EASY AND SAFE. SO THAT THIS GROUP OF PEOPLE WHO AREN'T GETTING ENOUGH HELP HAS A GOOD LOAN EXPERIENCE. HOME CREDIT LOOKS AT A LOT OF DIFFERENT TYPES OF INFORMATION TO GUESS HOW WELL THEIR CLIENTS WILL BE ABLE TO PAY BACK THEIR LOANS. THIS WAY, CLIENTS WHO CAN PAY BACK THE LOAN WILL NOT BE TURNED DOWN, AND LOANS WILL BE GIVEN WITH A PRINCIPAL, MATURITY, AND REPAYMENT SCHEDULE THAT WILL HELP THE CLIENTS SUCCEED.



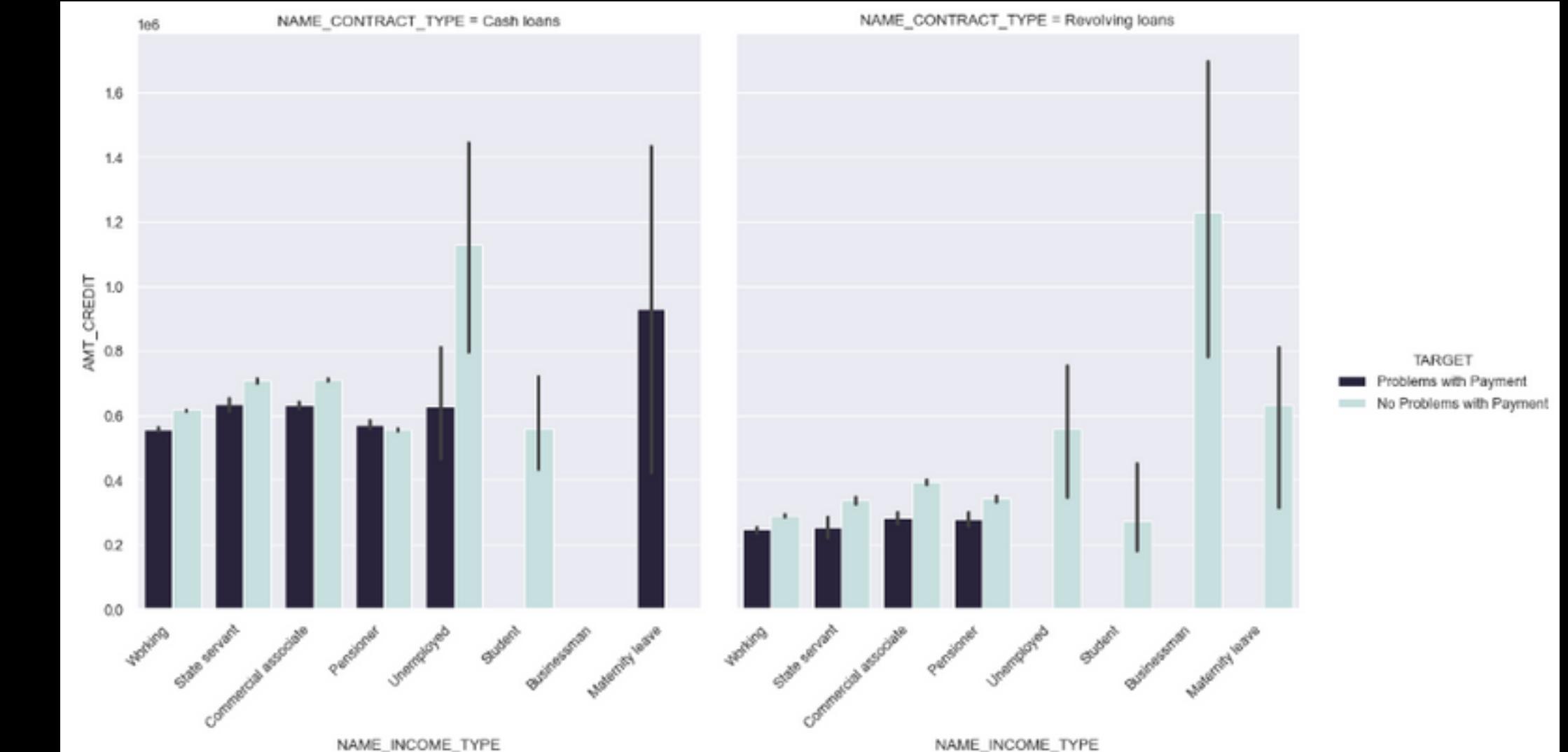
THE HOME CREDIT INDONESIA TEAM PROVIDES DATA. THE DATA IS MADE UP OF 122 COLUMNS AND 307.511 ROWS, AND THEY CONTAIN INFORMATION ABOUT CUSTOMERS WHO ARE HAVING TROUBLE OR NOT BEING ABLE TO REPAY LOANS THAT HOME CREDIT INDONESIA GAVE THEM.

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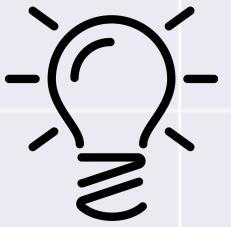
BUSINESS INSIGHTS

ALL OF OUR STUDENT CLIENTS HAVE NO TROUBLE PAYING BACK THEIR LOANS, WHETHER THEY GOT A CASH LOAN OR A REVOLVING LOAN FOR A SMALL TO MEDIUM-SIZED AMOUNT OF CREDIT.



FOR CLIENTS WHO TAKE MATERNITY LEAVE AND GET CASH LOANS, IT'S HARD FOR THEM ALL TO PAY BACK LOANS FOR A MEDIUM CREDIT AMOUNT. ALL CLIENTS WHO TAKE MATERNITY LEAVES OR HAVE REVOLVING LOANS HAVE NO TROUBLE PAYING THEM BACK.

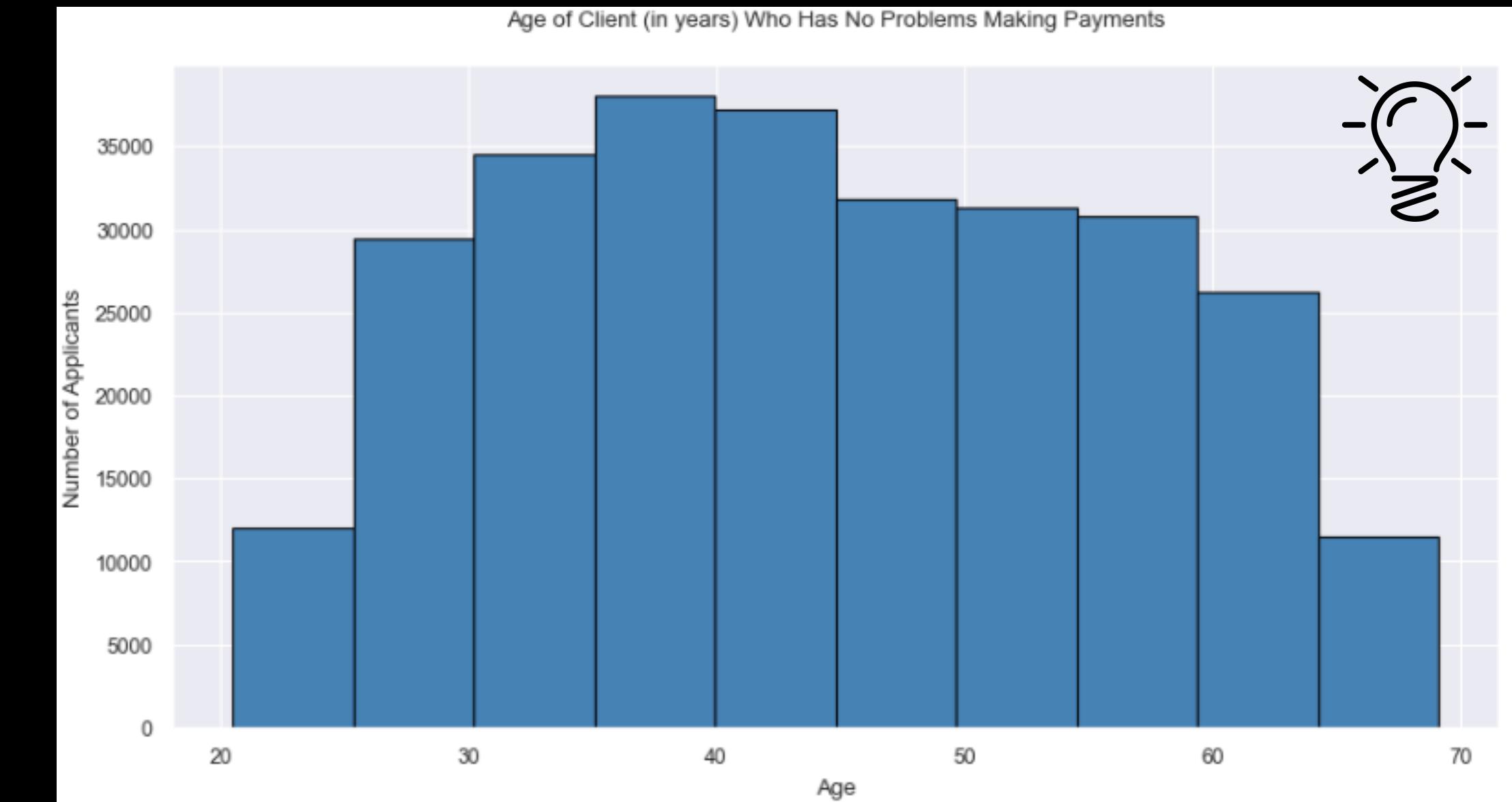
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BUSINESS INSIGHTS

MOST PEOPLE WHO APPLY FOR LOANS
ARE BETWEEN THE AGES OF 35 AND
40.

ON THE OTHER HAND, THERE AREN'T MANY
PEOPLE APPLYING TO BE CLIENTS UNDER 25
OR OVER 65.



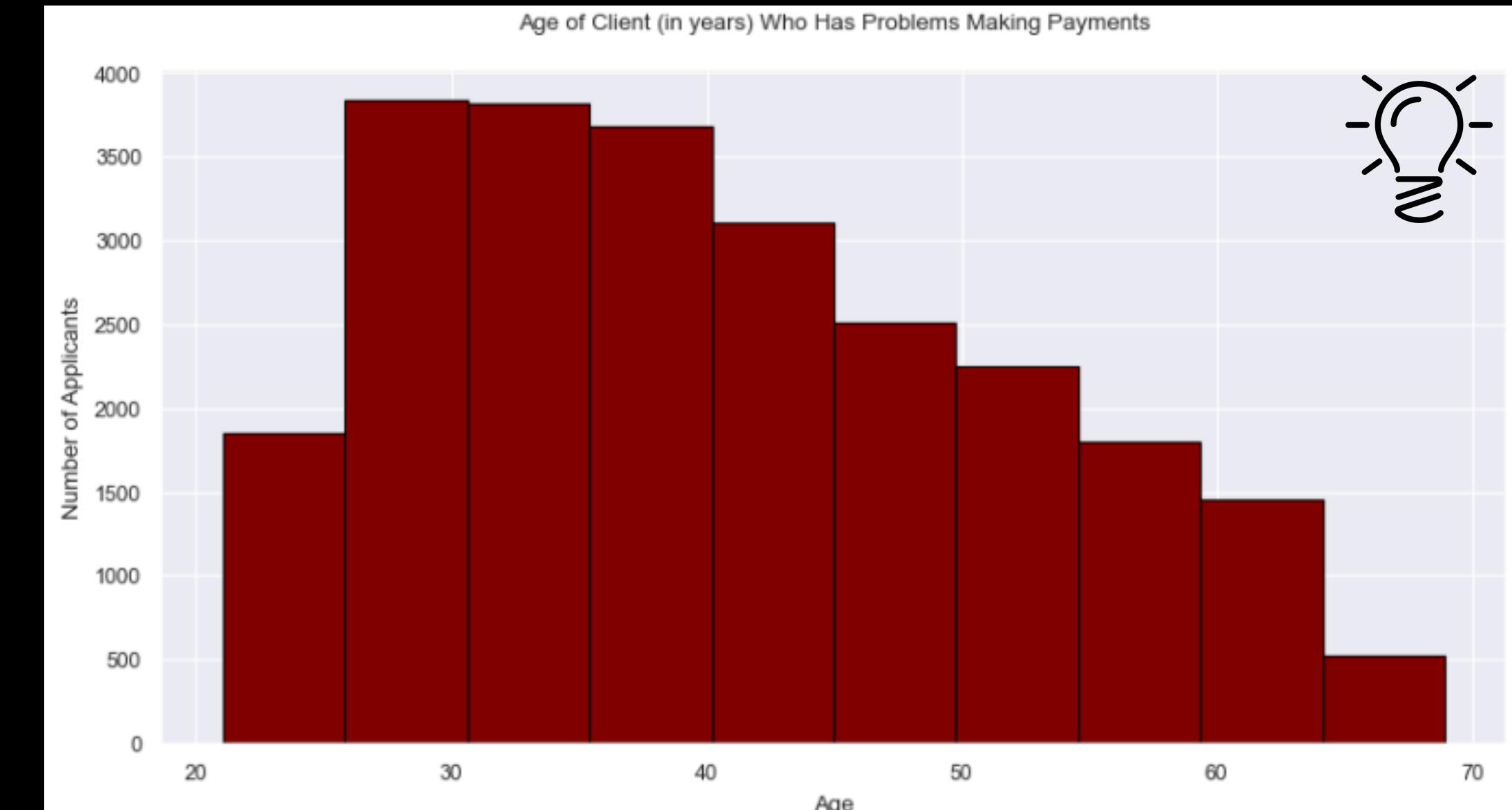
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BUSINESS INSIGHTS

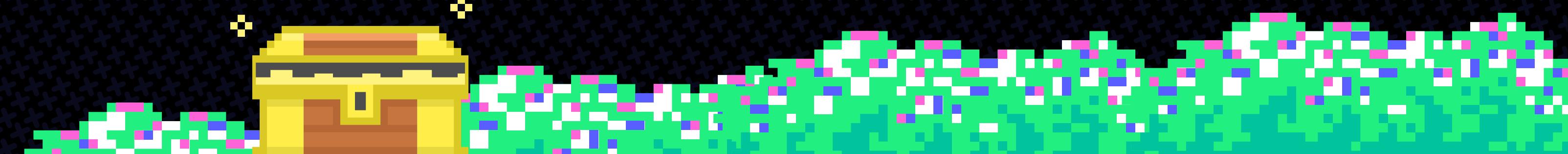
PEOPLE BETWEEN THE AGES OF 35 AND 45 DON'T HAVE ANY TROUBLE MAKING PAYMENTS. YOU CAN MAKE THESE CLIENTS YOUR TOP PRIORITY.

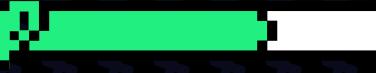
WHILE CLIENTS WHO ARE HAVING TROUBLE MAKING PAYMENTS ARE USUALLY BETWEEN THE AGES OF 25 AND 35.



MACHINE LEARNING MODEL

ALGORITHM	TRAINING ACCURACY	TESTING ACCURACY	ERROR MARGIN	ROC
Random Forest	100%	99,5%	0,5%	99,5%
Decision Tree	100%	85,5%	14,5%	86%
K-Nearest Neighbor	91,2%	87,5%	3,7%	87,6%
Logistic Regression	67,1%	67,4%	0,3%	67%

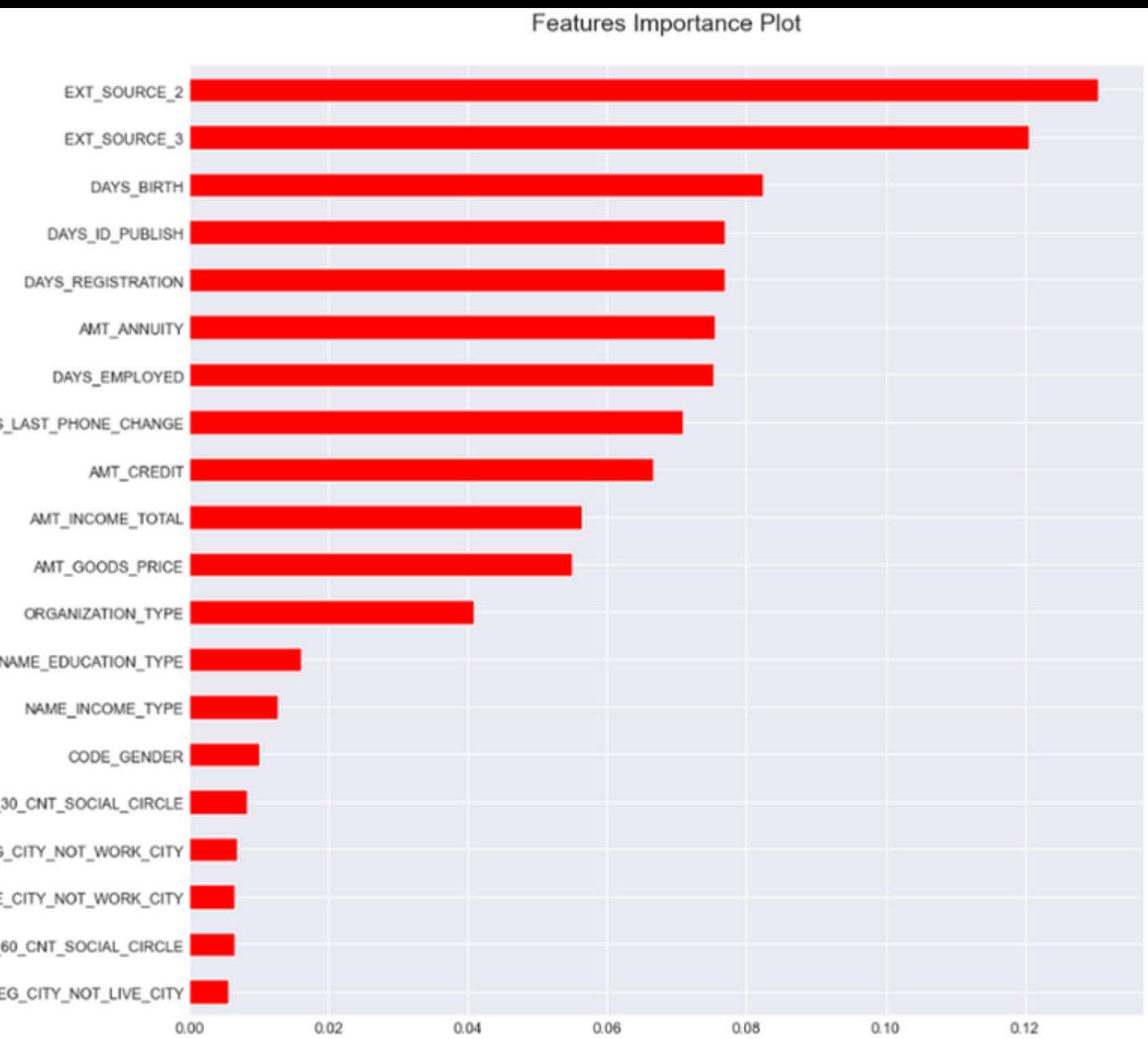




BEST MODEL

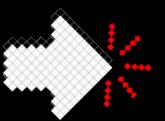
BOTH THE TRAIN AND TEST DATA FOR THE RANDOM FOREST MODEL HAVE ABOUT THE SAME PREDICTION ACCURACY. THIS MEANS THAT THE MODEL IS VERY GOOD, AS THERE IS NEITHER UNDERFITTING NOR OVERFITTING. SO THE RANDOM FOREST MODEL WAS PICKED AS THE BEST WAY TO GUESS HOW WELL THE CLIENT WOULD BE ABLE TO PAY BACK THE LOAN.

THE FIVE MOST IMPORTANT THINGS ABOUT SCORE FROM A DIFFERENT SOURCE OF DATA 2, SCORE FROM A DIFFERENT SOURCE OF DATA 3, DAYS ID PUBLISH, DAYS REGISTRATION, AND THE CLIENT'S AGE IN DAYS



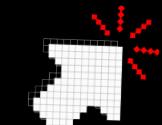
RECOMMENDATION

A CLIENT WITH A STUDENT INCOME IS ONE WHO CAN PAY BACK THE LOANS, WHETHER THEY GET A CASH LOAN OR A REVOLVING LOAN (100% OF APPLICATIONS ARE APPROVED). UNFORTUNATELY, ONLY 0.005% OF THE APPLICATIONS COME FROM STUDENTS.



IT'S SAFE TO SAY THAT A CLIENT WHO WORKS AS AN ACCOUNTANT CAN PAY BACK THE LOANS (95% OF APPLICATIONS ARE APPROVED). BUT ONLY 3.19 PERCENT OF THE APPLICATIONS COME FROM ACCOUNTANTS. SO DOES THE CLIENT WHO WORKS AS A MANAGER AND HIGH-SKILLED TECHNOLOGIST. THEY CAN PAY BACK THE LOANS, BUT THEY ONLY SEND A FEW APPLICATIONS.

Make a campaign to get more students, accountants, people with a lot of tech skills, and managers to want to apply for a loan.



GITHUB

[HTTPS://GITHUB.COM/SAWALZAMARZA/HOME-CREDIT-SCORECARD.GIT](https://github.com/sawalzamarza/home-credit-scorecard.git)

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THANK YOU

