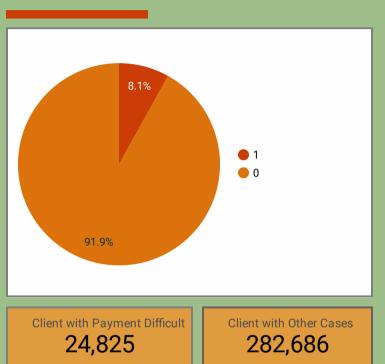
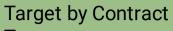
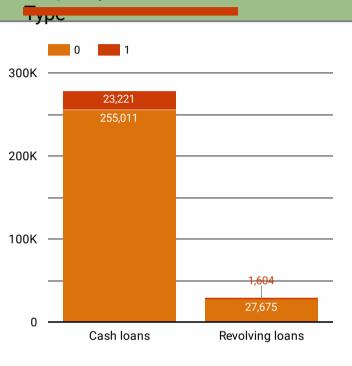
#### Client by Target



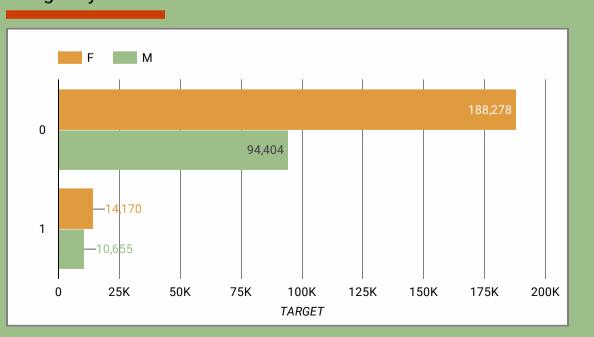
#### Total Target by Education Type

	NAME_EDUCATION_TYPE	TARGET	TARGET
1.	Secondary / secondary special	0	198,867
2.	Higher education	0	70,854
3.	Secondary / secondary special	1	19,524
4.	Incomplete higher	0	9,405
5.	Higher education	1	4,009
6.	Lower secondary	0	3,399
7.	Incomplete higher	1	872
8.	Lower secondary	1	417
9.	Academic degree	0	161
10.	Academic degree	1	3
		1 - 10 / 10	> < >

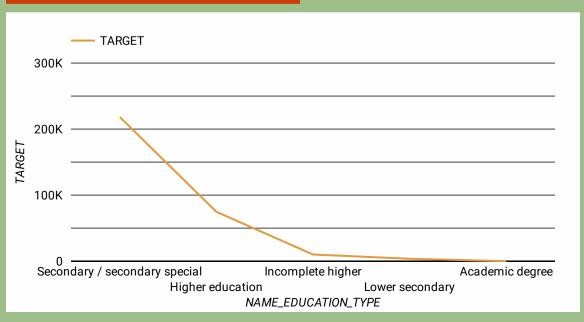




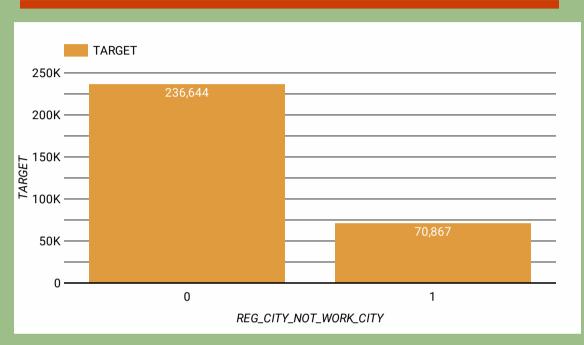
### Target by Gender



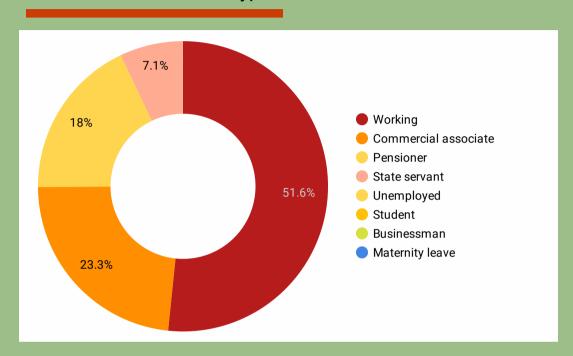
#### Target by Education Type



#### Comparison of Working in the Same City as Registration City



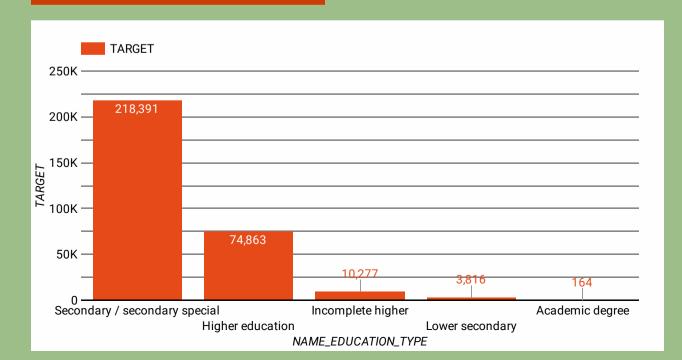
### Distribution of Income Types



### **Total Target by Organization Type**

	ORGANIZATION_TYPE	TARGET	TARGET *
1.	Business Entity Type 3	0	61,669
2.	XNA	0	52,384
3.	Self-employed	0	34,504
4.	Other	0	15,408
5.	Medicine	0	10,456
6.	Government	0	9,678
7.	Business Entity Type 2	0	9,653
8.	School	0	8,367
9.	Trade: type 7	0	7,091
10	Kinderaarten	n 1 - 25	6306 5/116 <b>&lt; &gt;</b>

#### **Distribution of Education Levels**



# **Metric Evaluation**

### Logistic Regression Without Handling

	precision	recall	f1-score	support
0	0.92	1.00	0.96	56389
1	0.00	0.00	0.00	5114
accuracy			0.92	61503
macro avg	0.46	0.50	0.48	61503
weighted avg	0.84	0.92	0.88	61503

### Logistic Regression Using SMOTETomek

	precision	recall	f1-score	support
0	0.79	0.84	0.82	89
1	0.87	0.82	0.84	111
accuracy			0.83	200
macro avg	0.83	0.83	0.83	200
weighted avg	0.83	0.83	0.83	200

# Logistic Regression Using Over Sampling

	precision	recall	f1-score	support
0	0.80	0.83	0.81	89
1	0.86	0.83	0.84	111
accuracy			0.83	200
macro avg	0.83	0.83	0.83	200
weighted avg	0.83	0.83	0.83	200

### Random Forest Without Handling

	precision	recall	f1-score	support
0	0.92	1.00	0.96	56389
1	0.62	0.00	0.01	55144
accuracy			0.92	61503
macro avg	0.77	0.50	0.48	61503
weighted avg	0.89	0.92	0.88	61503

### Random Forest Using SMOTETomek

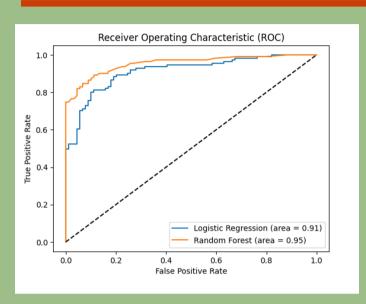
	precision	recall	f1-score	support
0	0.84	0.90	0.87	89
1	0.91	0.86	0.89	111
accuracy			0.88	200
macro avg	0.88	0.88	0.88	200
weighted avg	0.88	0.88	0.88	200

# Random Forest Using Over Sampling

	precision	recall	f1-score	support
0	0.84	0.91	0.87	89
1	0.82	0.86	0.89	111
accuracy			0.88	200
macro avg	0.88	0.88	0.88	200
weighted avg	0.88	0.88	0.88	200

# **Metric Evaluation**

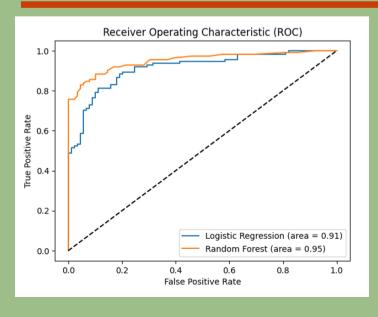
#### Logistic Regression and Random Forest Without Handling



ROC AUC Logistic Regression
0.499

ROC AUC Random Forest 0.502

#### Logistic Regression and Random Forest Using Over Sampling



ROC AUC Logistic Regression Random Over Sampling 0.83

ROC AUC Random Forest Random Over Sampling 0.88

#### Logistic Regression and Random Forest Using SMOTETomek

ROC AUC Logistic Regression
SMOTETomek
0.832

ROC AUC Random Forest
SMOTETomek
0.882

