Data Visualization and Model Evalua

Descriptive Statistics

	count	mean	std	min	25%	50%	75%	max
satisfac	11,991	0.6297	0.2411	0.09	0.48	0.66	0.82	1
last_ev	11,991	0.7167	0.1683	0.36	0.57	0.72	0.86	1
numbe	11,991	3.8029	1.1632	2	3	4	5	7
average	11,991	00.4735	48.7278	96	157	200	243	310
time_s	11,991	3.3649	1.3302	2	3	3	4	10
work_a	11,991	0.1543	0.3612	0	0	0	0	1
left	11,991	0.166	0.3721	0	0	0	0	1
promo	11,991	0.0169	0.129	0	0	0	0	1

Employee Churn Distribution

Employee Churn Distribution

16.6%

83.4%
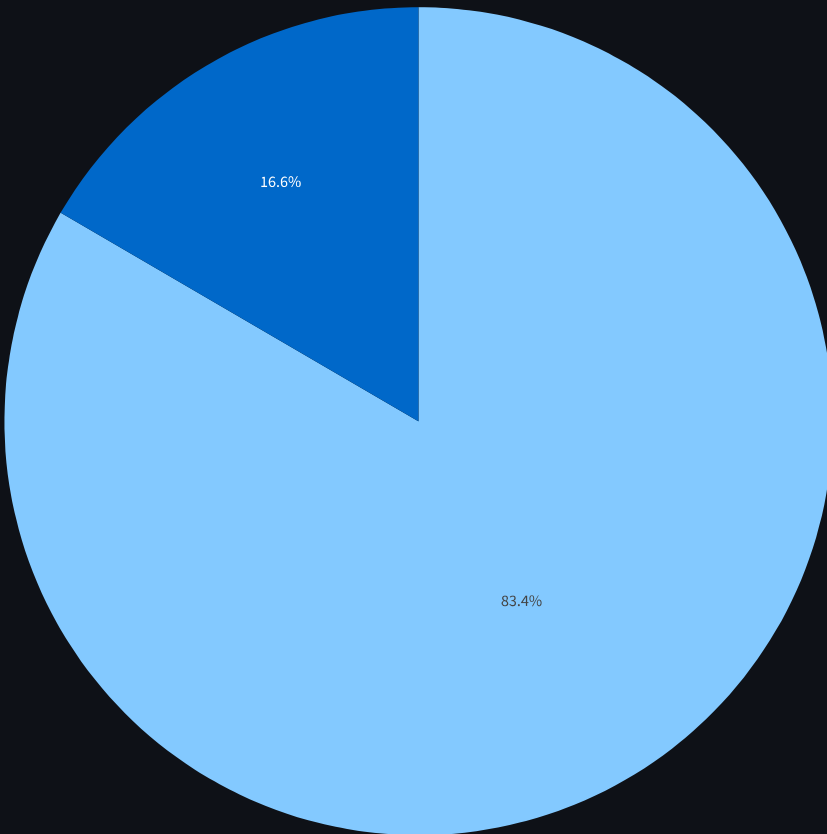
## Churn by Department

Number of Employees Who Left by Department
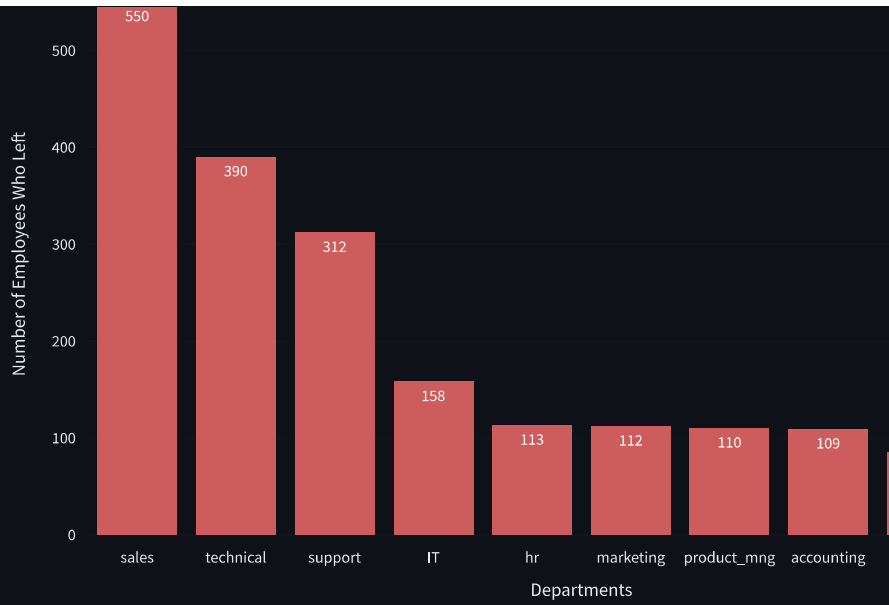
Heatmap of Feature Correlations

Heatmap with Formatted Numbers

	satisfaction_level	last_evaluation	number_project	average_monthly_hours	time_spend_company	work_accident
promotion_last_5years	0.02	-0.01	0.00	0.00	0.06	0.03
left	-0.35	0.01	0.03	0.07	0.17	-0.13
work_accident	0.04	-0.01	-0.01	-0.01	0.00	1.00
time_spend_company	-0.15	0.10	0.19	0.10	1.00	0.00
average_monthly_hours	-0.01	0.26	0.33	1.00	0.10	-0.01
number_project	-0.13	0.27	1.00	0.33	0.19	-0.01
last_evaluation	0.10	1.00	0.27	0.26	0.10	-0.01
satisfaction_level	1.00	0.10	-0.13	-0.01	-0.15	0.04

Model Evaluation Metrics

	Model	Accuracy	Precision	Recall	F1 Score
0	Random Forest	0.9783	0.9807	0.8878	0.9319
1	XGBoost	0.9787	0.9704	0.9002	0.934