ASSIGNMENT SUBJECTIVE QUESTIONS
LEAD_SCORING_CASE_STUDY

1. **Which are the top three variables in your model which contribute most towards the probability of a lead getting converted?**

The three most influential variables contributing to the probability of a lead getting converted are:

- Lead Origin
- Current Occupation
- Last Activity

These variables have the most significant impact based on their coefficients in the model.

	coef	std err	z	P>|z|	[0.025	0.975]
const	1.4827	0.195	7.596	0.000	1.100	1.865
Total Time Spent on Website	1.0521	0.044	23.748	0.000	0.965	1.139
Tags	0.0179	0.007	2.544	0.011	0.004	0.032
Lead Quality	-1.0473	0.045	-23.045	0.000	-1.136	-0.958
Asymmetrique Profile Index	0.1343	0.035	3.827	0.000	0.066	0.203
Asymmetrique Activity Score	0.7090	0.050	14.093	0.000	0.610	0.808
Asymmetrique Profile Score	0.1576	0.051	3.111	0.002	0.058	0.257
Lead Origin_Landing Page Submission	-0.5095	0.109	-4.657	0.000	-0.724	-0.295
Lead Origin_Lead Add Form	2.4765	0.209	11.825	0.000	2.066	2.887
Lead Source_Olark Chat	0.8050	0.135	5.966	0.000	0.541	1.069
Last Activity_Olark Chat Conversation	-1.6392	0.190	-8.609	0.000	-2.012	-1.266
Last Activity_SMS Sent	1.4649	0.085	17.219	0.000	1.298	1.632
What is your current occupation_NA	-0.9868	0.093	-10.595	0.000	-1.169	-0.804
What is your current occupation_Working Professional	1.6593	0.211	7.876	0.000	1.246	2.072

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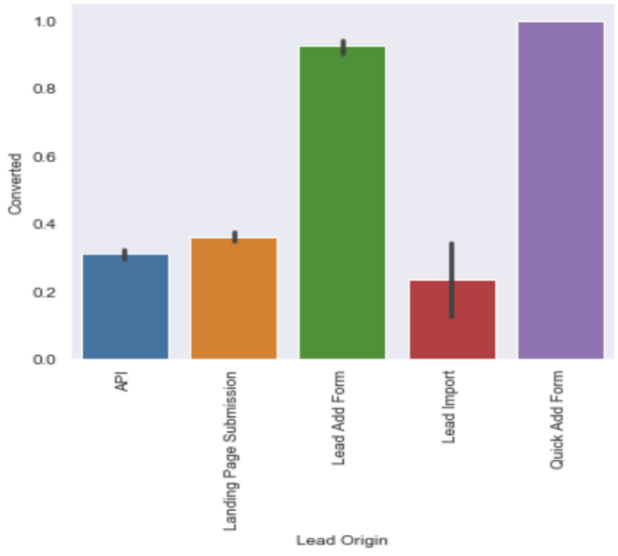
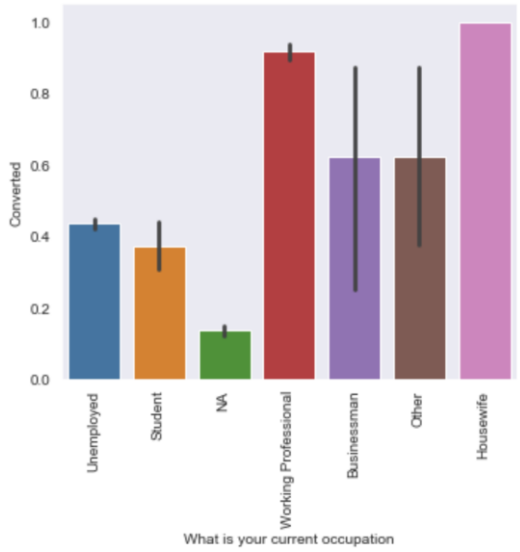
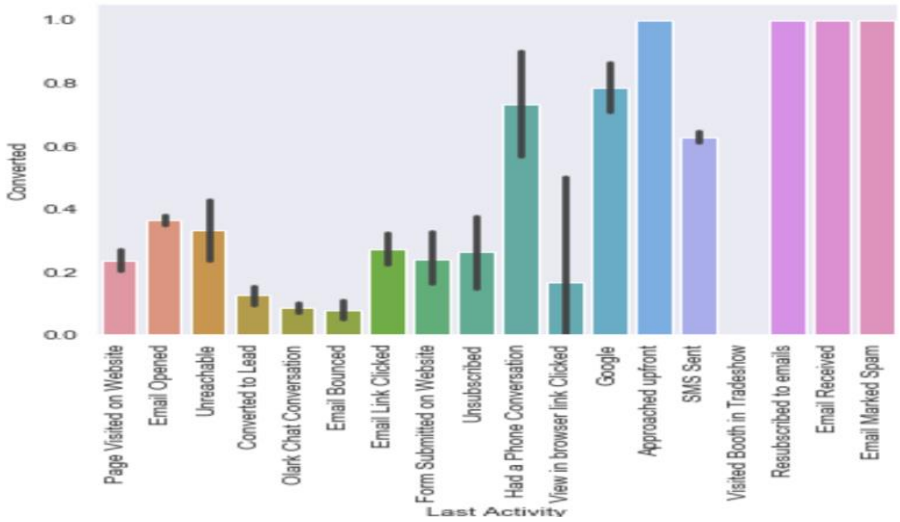
2. **What are the top 3 categorical/dummy variables in the model which should be focused the most on in order to increase the probability of lead conversion?**

From the final model and EDA, the top three categorical variables that should be prioritized to enhance lead conversion are:

1. Lead Origin: Lead Add Form – Leads who have added the form.
2. Current Occupation: Working Professional – Working professionals show a higher likelihood of enrolling.
3. Last Activity: SMS Sent – Leads who received an SMS are more likely to convert.







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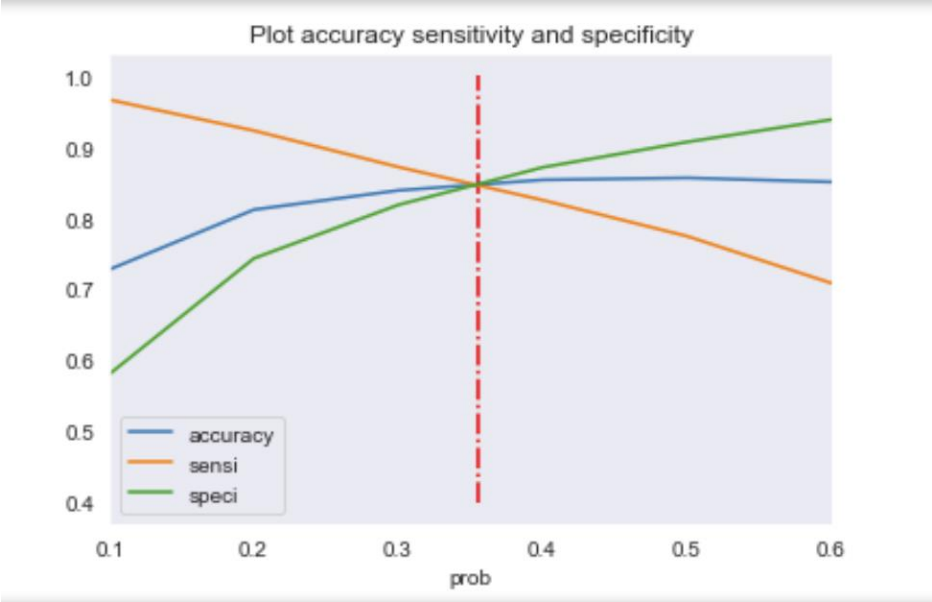
3. **X Education has a period of 2 months every year during which they hire some interns. The sales team, in particular, has around 10 interns allotted to them. So, during this phase, they wish to make the lead conversion more aggressive. They want almost all of the potential leads (i.e., the customers who have been predicted as 1 by the model) to be converted and hence, want to make phone calls to as many of such people as possible. Suggest a good strategy they should employ at this stage.**

Sensitivity measures the proportion of actual conversions correctly identified by the model, while specificity measures the proportion of actual non-conversions correctly identified. Increasing sensitivity typically decreases specificity and vice versa. Adjusting the conversion probability cutoff can balance these metrics.



For the two-month period with additional interns, X Education should lower the threshold value for conversion probability. This increases sensitivity, ensuring nearly all leads likely to convert are identified, even if some non-conversions are misclassified. This approach maximizes the number of potential leads contacted, increasing overall conversions and revenue despite a possible reduction in conversion rate.

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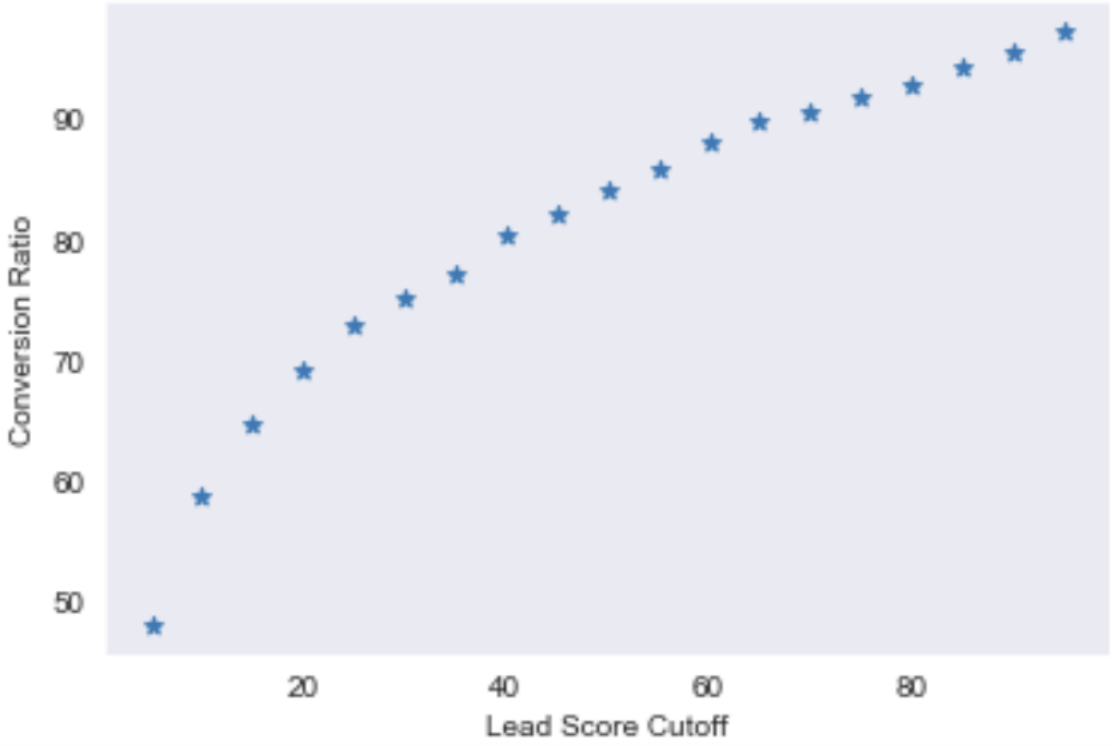
4. **Similarly, at times, the company reaches its target for a quarter before the deadline. During this time, the company wants the sales team to focus on some new work as well. So during this time, the company's aim is to not make phone calls unless it's extremely necessary, i.e., they want to minimize the rate of useless phone calls. Suggest a strategy they should employ at this stage.**

High specificity ensures the model accurately identifies leads unlikely to convert, even at the risk of missing some potential conversions.



When X Education meets its quarterly targets early and aims to minimize unnecessary calls, they should increase the threshold value for conversion probability. This boosts specificity, ensuring only the most promising leads are contacted. This strategy reduces the volume of unnecessary calls, allowing the sales team to focus on new tasks, improving efficiency, and shortening the sales cycle while maintaining a high conversion rate.

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