A Beginner's Case: Model Building

Canadian Charitable Society (CCS thereafter) has developed a *frequent* giving program (FGP) in which donors make a small, predetermined donation that is automatically debited against a donor's credit card each month. Since the amounts are small, this has limited effects on the donor's monthly cash flow, allowing that donor to comfortably give more in total than is possible with a single annual donation.

(A) Target variable(Y)

MonthGive: A factor indicating whether the donor joined the monthly giver program in the last two annual campaigns with levels: No, Yes

	MonthGive	Region	YearsGive	AveDonAmt	LastDonAmt	DonPerYear	NewDonor
7761	No	R1	10	9.000000	9.00	0.10000000	No
7771	No	R4	9	56.666667	40.00	0.66666667	No
7781	No	R5	9	23.000000	20.00	0.55555556	No
7791	No	R3	12	32.500000	5.00	0.33333333	No
7801	No	R3	1	20.000000	20.00	1.00000000	No
7811	No	R4	3	20.000000	20.00	0.33333333	No
7821	No	R5	4	25.000000	25.00	0.25000000	No
7831	No	R4	1	10.000000	10.00	1.00000000	No
7841	No	R4	8	15.000000	10.00	0.25000000	No
7851	No	R1	3	10.000000	10.00	0.66666667	No
7861	No	R5	3	16.666667	20.00	1.00000000	No
7871	No	R3	2	10.000000	10.00	0.50000000	No
7881	No	R1	1	10.000000	10.00	1.00000000	No
7891	No	R1	2	50.000000	50.00	0.50000000	No
7901	No	R1	9	20.833333	20.00	0.66666667	No
7911	No	R3	1	5.000000	5.00	1.00000000	No
7921	No	R3	2	10.000000	10.00	1.00000000	No
7931	No	R1	9	21.666667	25.00	0.33333333	No
7941	No	R6	8	10.000000	10.00	0.25000000	No
7951	No	R4	1	20.000000	20.00	1.00000000	No
7961	No	R3	2	11.000000	11.00	0.50000000	No
7971	No	R5	1	10.000000	10.00	1.00000000	No
7981	No	R5	9	10.000000	10.00	0.11111111	No
7991	No	R1	2	8.500000	7.00	1.00000000	No
8001	No	R2	3	35.000000	35.00	0.33333333	No

CCS.csv

(B) Covariates(X)

Region

A factor indicating where in British Columbia or the Yukon the donor resides with levels:

    R1 (Vancouver Island)

    R2 (Greater Vancouver)

    R3 (The Fraser Valley)

    R4 (The North Coast of BC)

    R5 (The Central and Southern Interior of BC)

    R6 (The Northern Interior of BC and the Yukon)

YearsGive: The number of years the individual has given to the Canadian Cancer Society.

AveDonAmt: The average dollar amount of past donations by the donor.

LastDonAmt: The dollar amount of the last donation by the donor.

DonPerYear: The rate of donating to the Canadian Cancer Society measured as the number of donations per year by the donor.

NewDonor: A factor that indicates whether the individual is a first time donor with levels. No, Yes

Age20t29: The percentage of people between age 20 and 29 residing in the Enumeration Area in which the donor resides.

Age20t39: The percentage of people between age 20 and 39 residing in the Enumeration Area in which the donor resides.

Age60pls: The percentage of people 60 years of age or older residing in the Enumeration Area in which the donor resides.

Age70pls: The percentage of people 70 years of age or older residing in the Enumeration Area in which the donor resides.

Age80pls: The percentage of people 80 years of age or older residing in the Enumeration Area in which the donor resides.

AdultAge: The average age of adult residents in the Enumeration Area in which the donor resides.

SomeUnivP: The percentage of adults in the postal code in which the donor resides that have an educational attainment of some college or university attendance.

FinUnivP: The percentage of adults in the Enumeration Area in which the donor resides that have a university degree.

hh1t2mem: The percentage of households in the Enumeration Area in which the donor resides that have only one or two members present.

hh1mem: The percentage of households in the Enumeration Area in which the donor resides that have only a single member present.

AveIncEA: The average pre-tax income of households in the Enumeration Area in which the donor resides.

DwelValEA: The average dwelling value in the Enumeration Area in which the donor resides.

EngPrmLang: The percentage of households in the Enumeration Area in which the donor resides that have English as their primary language.

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Problem 1: How to increase more YES in **MonthGive?**