Choosing

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Consumer Knowledge

age	job	marital	education	default	balance	rentown	repairplan	contact	plannum	months	devices	bresponse
30	unemployed	married	primary	no	1787	rent	no	cellular	19	79	1	0
33	services	married	secondary	no	4789	own	yes	cellular	11	220	5	0
35	management	single	tertiary	no	1350	own	no	cellular	16	185	2	0
30	management	married	tertiary	no	1476	own	yes	unknown	3	199	1	0
59	blue-collar	married	secondary	no	0	own	no	unknown	5	226	1	0
35	management	single	tertiary	no	747	rent	no	cellular	23	141	4	0
36	self-employed	married	tertiary	no	307	own	no	cellular	14	341	3	0
39	technician	married	secondary	no	147	own	no	cellular	6	151	1	0
41	entrepreneur	married	tertiary	no	221	own	no	unknown	14	57	1	0
43	services	married	primary	no	-88	own	yes	cellular	17	313	3	0
39	services	married	secondary	no	9374	own	no	unknown	20	273	1	0
43	admin.	married	secondary	no	264	own	no	cellular	17	113	1	0
36	technician	married	tertiary	no	1109	rent	no	cellular	13	328	1	0
20	student	single	secondary	no	502	rent	no	cellular	30	261	1	1

Consumer Choice

- Response variable
  - What do we do to predict?
  - Continuous
  - Categorical
- Explanatory variables
  - What do we know?
  - Continuous
  - Categorical
- Factors that prompt a choice
  - Geographic
  - Demographic
  - Behavioral
  - Psychographic

balance	rentown	repairplan
1787	rent	no
4789	own	yes
1350	own	no
1476	own	yes
0	own	no
747	rent	no
307	own	no
147	own	no
221	own	no
-88	own	yes
9374	own	no
264	own	no
1109	rent	no
502	rent	no

Logistic Regression

- What if my response variable is not continuous?
  - Dead or alive
  - Approve or disapprove
  - Switch plans or stay
  - Renew or cancel
- Assumption is Bernoulli distribution

$$P(y) = p^y(1-p)^{(1-y)}$$

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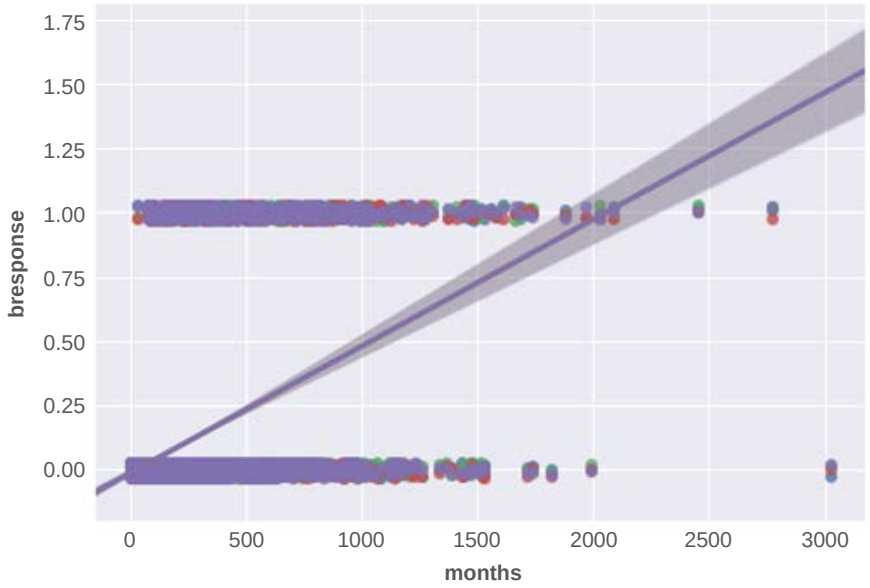
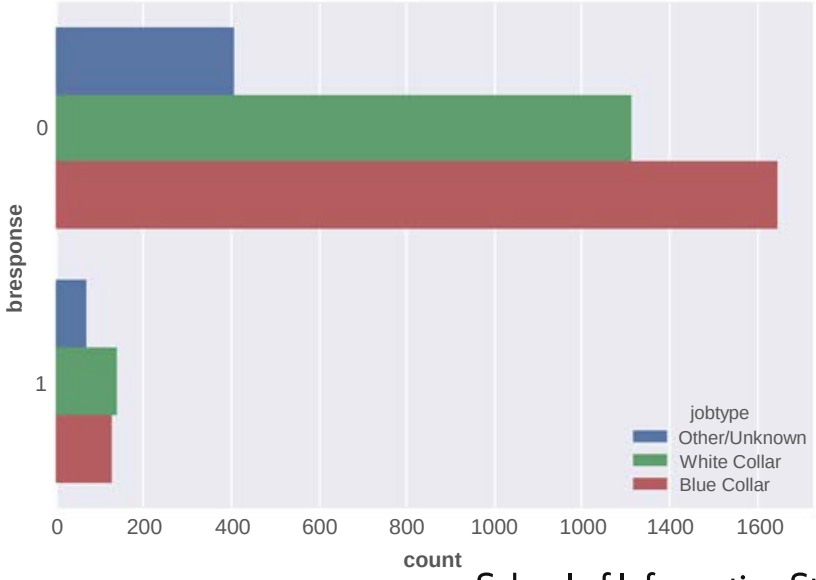
Logistic Regression (cont.)

- More classification than regression
- Link function
- Probability





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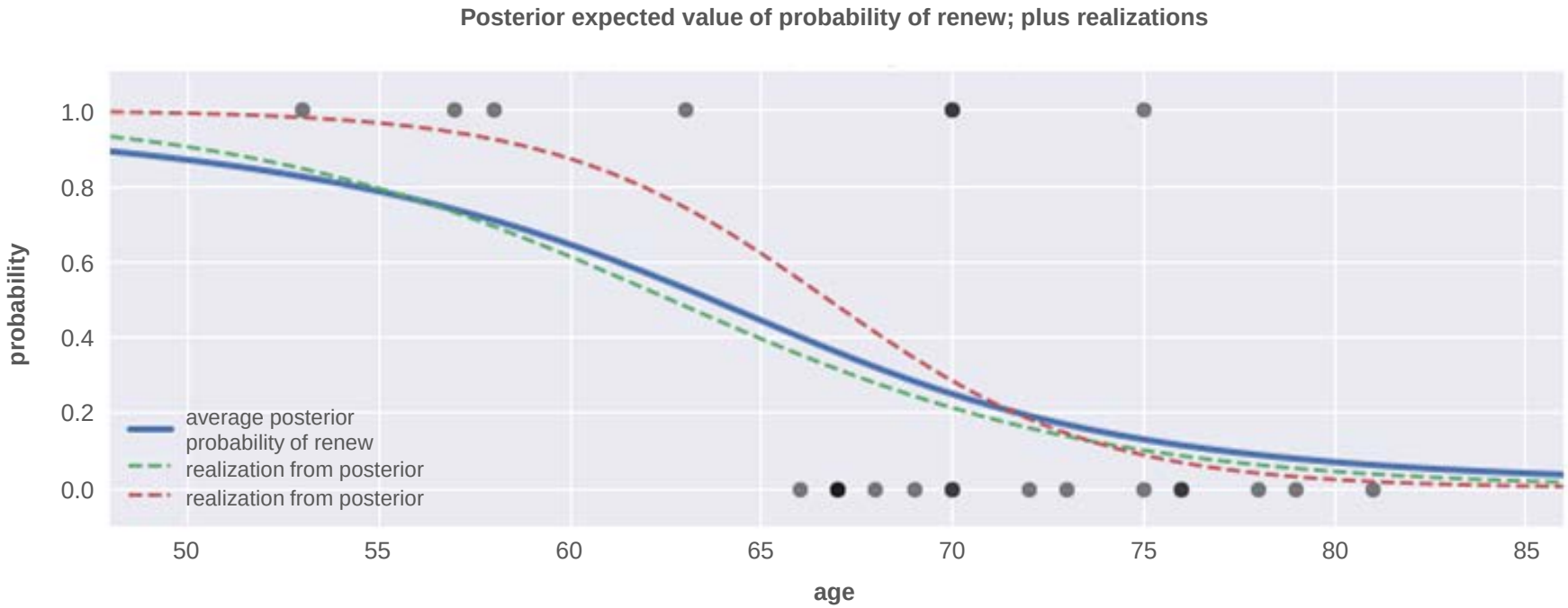
Consumer Choice Splits



Consumer Choice

T-Mobile