

Latino Trump Support: ML Analysis Summary

CMPS 2016 | Random Forest Classification

Study Overview

DV: Trump vote (1) vs Non-Trump vote (0) among Latino voters

Data: CMPS 2016, Latino respondents who voted

Method: Random Forest (500 trees, balanced class weights)

Sample Characteristics

Total Latino Voters:	3,001
Trump Voters (DV=1):	594 (19.8%)
Non-Trump Voters (DV=0):	2,407 (80.2%)
Features (one-hot encoded):	1,517
Train/Test Split:	80/20 stratified

Model Performance

Full Model (all 1,517 features)

Test ROC-AUC:	0.9383
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Non-Partisan Model (1,444 features)

Test ROC-AUC:	0.8793
AUC Drop:	0.0590 (6.3% relative)

Note: Non-partisan model excludes 73 variables measuring party ID, ideology, candidate favorability, and party evals.

Key Findings

1. Trump favorability is strongest single predictor
2. Party ID and partisan leanings dominate full model
3. Removing partisan vars reduces AUC by only 6.3%
4. Non-partisan model reveals immigration attitudes:
 - Views on immigration levels (increase/decrease)
 - Citizenship pathway for undocumented
 - Attitudes toward hearing Spanish spoken
 - Support for deportation policies
5. Strong predictive power (AUC 0.88) without partisan vars

Top 30 Predictors - Full Model (AUC: 0.9383) Ranks 1-15

Rank	Feature	Importance	Std
1	C4_(4) Very unfavorable	0.017	0.0033
2	C242_HID_(2) Democratic Party	0.0062	0.0021
3	L46_(2) Democrat	0.0047	0.0025
4	C2_(4) Very unfavorable	0.0029	0.002
5	L266_(2) Democrats	0.0022	0.0016
6	C41_(5) Strongly disagree	0.0021	0.0007
7	C9_(4) Very unfavorable	0.002	0.0018
8	C25_(2) Democrat	0.0019	0.0014
9	C337_(2) Increase	0.0016	0.0008
10	C4_(2) Somewhat favorable	0.0015	0.0009
11	C2_(3) Somewhat unfavorable	0.0015	0.0005
12	C142_(3) Bothers me a lot	0.0009	0.0006
13	C115_(4) Never	0.0009	0.0004
14	C114_(4) Never	0.0008	0.0004
15	C45_(5) Strongly disagree	0.0008	0.0004

Top 30 Predictors - Full Model (AUC: 0.9383) Ranks 16-30

Rank	Feature	Importance	Std
16	L267_(2) Democrats	0.0007	0.001
17	C3_(4) Very unfavorable	0.0007	0.0012
18	C248_(3) A little	0.0007	0.0004
19	C141_(4) Somewhat support deporting th	0.0006	0.0002
20	BLA206_(4) Strongly disagree	0.0006	0.0005
21	C158_(02) Should not	0.0006	0.001
22	C338_(2) Increase	0.0006	0.0004
23	C109_(4) Not at all as an outside	0.0005	0.0002
24	SC2000_PERCENTNOTCITIZEN	0.0005	0.0002
25	C258_(2) No	0.0005	0.0003
26	C256_(2) No	0.0005	0.0002
27	C111_(4) Never	0.0005	0.0003
28	DP2000_PERCENTHOUSEHOLDSVAC	0.0005	0.0002
29	BLA207_(4) Strongly disagree	0.0005	0.0008
30	L46_(3) Neither party is better than th	0.0005	0.0003

Top 30 Predictors - Non-Partisan Model (AUC: 0.8793) Ranks 1-15

Rank	Feature	Importance	Std
1	C41_(5) Strongly disagree	0.0074	0.0031
2	C45_(5) Strongly disagree	0.0052	0.0018
3	C158_(02) Should not	0.0052	0.0023
4	C337_(2) Increase	0.005	0.0026
5	C38_(3) They should be required to lea	0.0033	0.0014
6	BLA207_(4) Strongly disagree	0.0027	0.0016
7	C42_Other	0.0023	0.0009
8	C45_(4) Disagree	0.0022	0.001
9	BL155_(2) Racism exists today but is no	0.0021	0.0009
10	L241_(5) Strongly oppose	0.0021	0.0012
11	C248_(3) A little	0.002	0.0009
12	C247_(3) A little	0.0018	0.0006
13	C338_(2) Increase	0.0017	0.0009
14	C337_(3) Stay the same	0.0016	0.0009
15	C142_(3) Bothers me a lot	0.0016	0.0012

Top 30 Predictors - Non-Partisan Model (AUC: 0.8793) Ranks 16-30

Rank	Feature	Importance	Std
16	C115_(4) Never	0.0016	0.0011
17	C40_(5) Strongly disagree	0.0016	0.0012
18	C228_(5) Strongly oppose	0.0014	0.0023
19	LA203_(4) Strongly support Republic	0.0013	0.0005
20	C141_(4) Somewhat support deporting th	0.0013	0.0008
21	C246_(3) A little	0.0012	0.0004
22	C112_(4) Never	0.0011	0.0004
23	C256_(2) No	0.0011	0.0007
24	C41_(3) Neither agree nor disagree	0.0011	0.0004
25	SC2011_PERCENTEDUCHIGHSCHOOLC	0.0009	0.0006
26	C111_(4) Never	0.0009	0.0005
27	BL175_(5) Strongly disagree	0.0008	0.0009
28	BL89_(4) No	0.0008	0.0004
29	C114_(4) Never	0.0008	0.0007
30	DP2010_PERCENT18OLDER	0.0008	0.0004

Appendix: Variables & Methods

Partisan Variables Removed (73 columns total)

Variable	Description
C2	Hillary Clinton favorability
C3	Bernie Sanders favorability
C4	Donald Trump favorability
C5	Ted Cruz favorability
C8	Bill Clinton favorability
C9	Barack Obama favorability
C10	Michelle Obama favorability
C11	Jeb Bush favorability
C25	Party registration (Rep/Dem/Ind)
C26	Strong partisan identification
C27	Party lean (for independents)
C31	Ideology (liberal-conservative scale)
L46	Which party better on immigration
L266	Which party better for Latinos
L267	Which party better on values
L293	Democratic Party favorability (0-10)
L294	Republican Party favorability (0-10)
C242_HID	Party identification (derived)
LA204	Party support (group support)

Interpretation Notes

Permutation Importance: Measures feature importance by shuffling each feature and measuring AUC decrease. (50 repeats for stability)

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