

Assignment 3

WHO'S THE REAL WINNER ?

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April 12, 2024

1 Models Used

Table 1: Results for KNN models.

Family	Model	F1 Score	Runtime
KNN	KNN-17	0.237864	0.186352
KNN	KNN-18	0.233010	0.090526
KNN	KNN-25	0.228155	0.083889
KNN	KNN-12	0.228155	0.220816
KNN	KNN-27	0.223301	0.165576
KNN	KNN-26	0.223301	0.085786
KNN	KNN-24	0.223301	0.071045
KNN	KNN-15	0.221683	0.070096
KNN	KNN-16	0.221683	0.063123
KNN	KNN-28	0.221683	0.054734

Table 2: Results for Random Forest models.

Family	Model	F1 Score	Runtime
RF	RF-1000-100-10-10	0.270227	2.616872
RF	RF-1000-100-20-10	0.270227	2.173240
RF	RF-1000-100-20-10	0.270227	2.152584
RF	RF-1000-100-10-10	0.270227	2.166511
RF	RF-1000-100-30-10	0.263754	2.124736
RF	RF-1000-100-30-10	0.263754	4.993485
RF	RF-100-100-40-10	0.262136	0.213711
RF	RF-100-100-40-10	0.262136	0.344057
RF	RF-100-100-20-10	0.260518	0.220281
RF	RF-1000-100-40-10	0.260518	2.131024

⁰In the table, 'KNN-x' denotes K Nearest Neighbors with x neighbors.

⁰In the table, 'RF-a-b-c-d' denotes Random Forest with parameters: n_estimators=a, max_depth=b, min_samples_split=c, min_samples_leaf=d.

2 Data Analysis

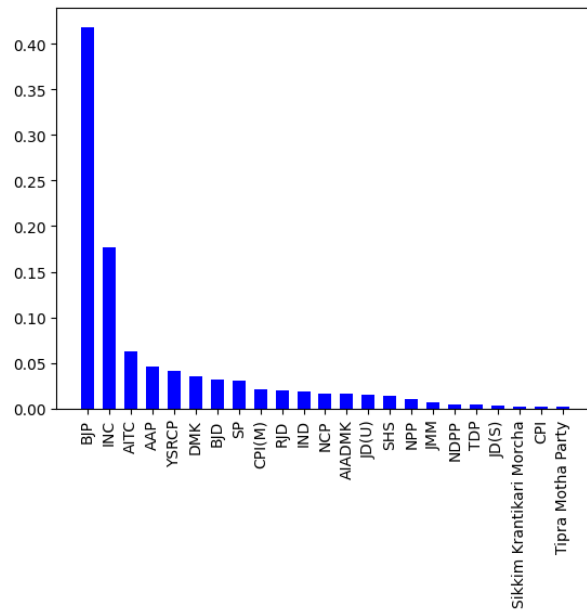


Figure 1: Percentage distribution of Candidates in Parties

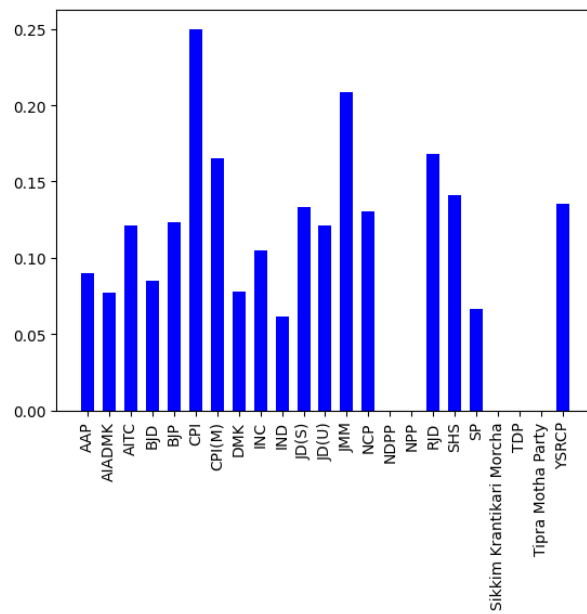


Figure 2: Percentage distribution of Criminal Candidates in Parties

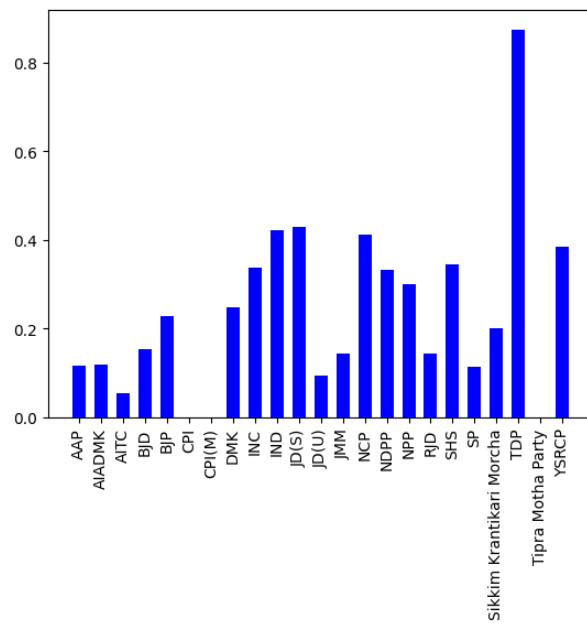


Figure 3: Percentage distribution of Wealthy Candidates in Parties