Can we predict Supreme Court case outcomes?

Chris Nasrallah

```
12    the rules in this case.  Rule 25(a) is promulgated by the

13    Supreme Judicial Court of --

14              JUSTICE KENNEDY:  Well, but they put a gloss on

15    the rule by their decision.

16              MR. NATHANSON:  Well, that was the Massachusetts

17    Appeals Court, I might add.

18              Second of all, the rule itself requires that the

19    motion shall be ruled upon at that time.  It says nothing

20    about reconsideration, and clearly --

21              JUSTICE BREYER:  They've held that in this case.

22    We have a Massachusetts decision.  It's their law and
```
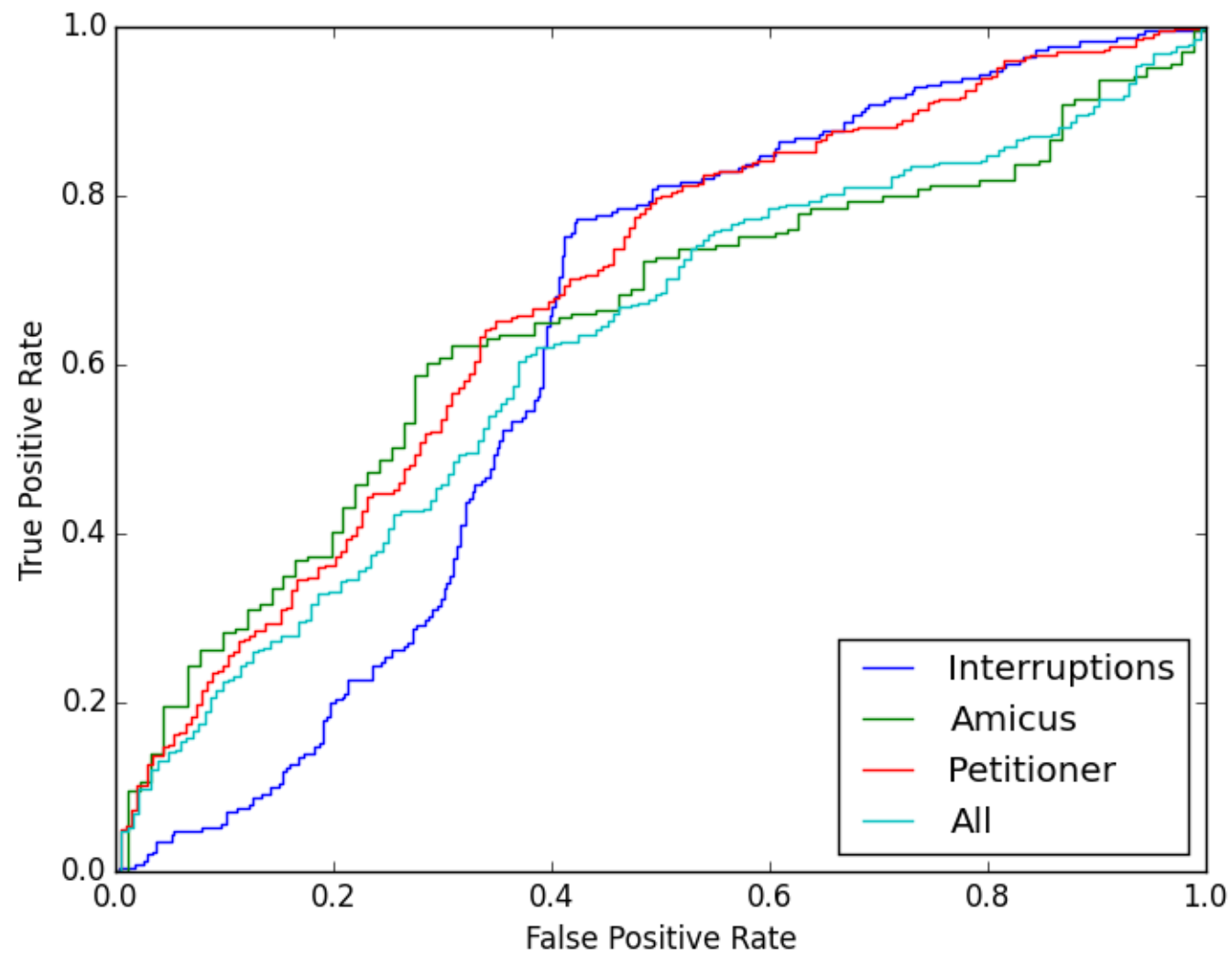
Which side is interrupted more?

P(Pet wins)	Petitioner	Respondent
Petitioner	0.75	0.83
None	0.60	0.75
Respondent	0.28	0.51

Amicus Curae Support?

[2005-2013]

Analyses / Algorithms

- NLP / Sentiment Analysis of Oral Arguments
  - Naïve Bayes binary classifier:
    - Labels:
      - 'positive' == judge asking question votes in their favor
      - 'negative' == judge asking question votes against
    - Features:
      - Petitioner, Amicus, Interruptions
      - Word presence – 'Bag of words' model
- Training Set?
- Cross-validation

```
train on 18937 instances, test on 6313 instances
accuracy: 0.585141770949
Most Informative Features
                dna = True              pos : neg      =       9.6 : 1.0
           research = True              pos : neg      =       9.0 : 1.0
         himmelfarb = True              pos : neg      =       8.6 : 1.0
            conceal = True              pos : neg      =       7.7 : 1.0
               rent = True              neg : pos      =       7.6 : 1.0
            chapter = True              pos : neg      =       6.8 : 1.0
             outcom = True              pos : neg      =       6.8 : 1.0
           accessori = True             neg : pos      =       6.6 : 1.0
              penri = True              neg : pos      =       6.6 : 1.0
            maynard = True              pos : neg      =       6.3 : 1.0
```