

# DRETA: EXTRACTING RDF FROM WIKITABLES

Emir Muñoz, Aidan Hogan, Alessandra Mileo  
National University of Ireland, Galway

## MOTIVATION



### Manchester United F.C.

From Wikipedia, the free encyclopedia  
Manchester United Football Club is an English professional football club, based in Old Trafford, Greater Manchester, that plays in the Premier League. Founded as Newton Heath LYR Football Club in 1878, the club changed its name to Manchester United in 1902 and moved to Old Trafford in 1910.

Manchester United have won many trophies in English football, including a record 20 League titles, a record 11 FA Cups,[3] four League Cups and a record 20 FA Community Shields. The club has also won three European Cups, one UEFA Cup Winners' Cup, one UEFA Super Cup, one Intercontinental Cup and one FIFA Club World Cup. In 1998–99, the club won a continental treble of the Premier League, the FA Cup and the UEFA Champions League, an unprecedentedfeat for an English club.

The 1958 Munich air disaster claimed the lives of eight players. In 1968, under the management of Matt Busby, Manchester United was the first English football club to win the European Cup. Alex Ferguson won 28 major honours, and 38 in total, from November 1986 to May 2013.[4][5] when he announced his retirement after 26 years at the club.[6] Fellow Scot David Moyes was appointed as his replacement on 9 May 2013.[7]

Manchester United is the third-richest football club in the world for 2011–12 in terms of revenue, with an annual revenue of €395.9 million, and the second most valuable club in 2013.



| No. | Position | Player                      | No. | Position | Player           |
|-----|----------|-----------------------------|-----|----------|------------------|
| 1   | GK       | David de Gea                | 19  | FW       | Danny Welbeck    |
| 2   | DF       | Rafael                      | 20  | FW       | Robin van Persie |
| 3   | DF       | Patrice Evra (vice-captain) | 22  | DF       | Fábio            |
| 4   | DF       | Phil Jones                  | 23  | MF       | Tom Cleverley    |
| 5   | DF       | Rio Ferdinand               | 24  | MF       | Darren Fletcher  |

### QUERY:

```
SELECT ?player
WHERE {
  ?player dbp:currentclub dbr:Manchester_United_F.C . }
```

player  
 http://dbpedia.org/resource/David\_de\_Gea  
 http://dbpedia.org/resource/Rafael\_Pereira\_da\_Silva\_(footballer\_born\_1990)  
 http://dbpedia.org/resource/Patrice\_Evra  
 ...  
 http://dbpedia.org/resource/Fabio\_Pereira\_da\_Silva  
 http://dbpedia.org/resource/Tom\_Cleverley  
 http://dbpedia.org/resource/Darren\_Fletcher

... INCOMPLETE RESULTS!

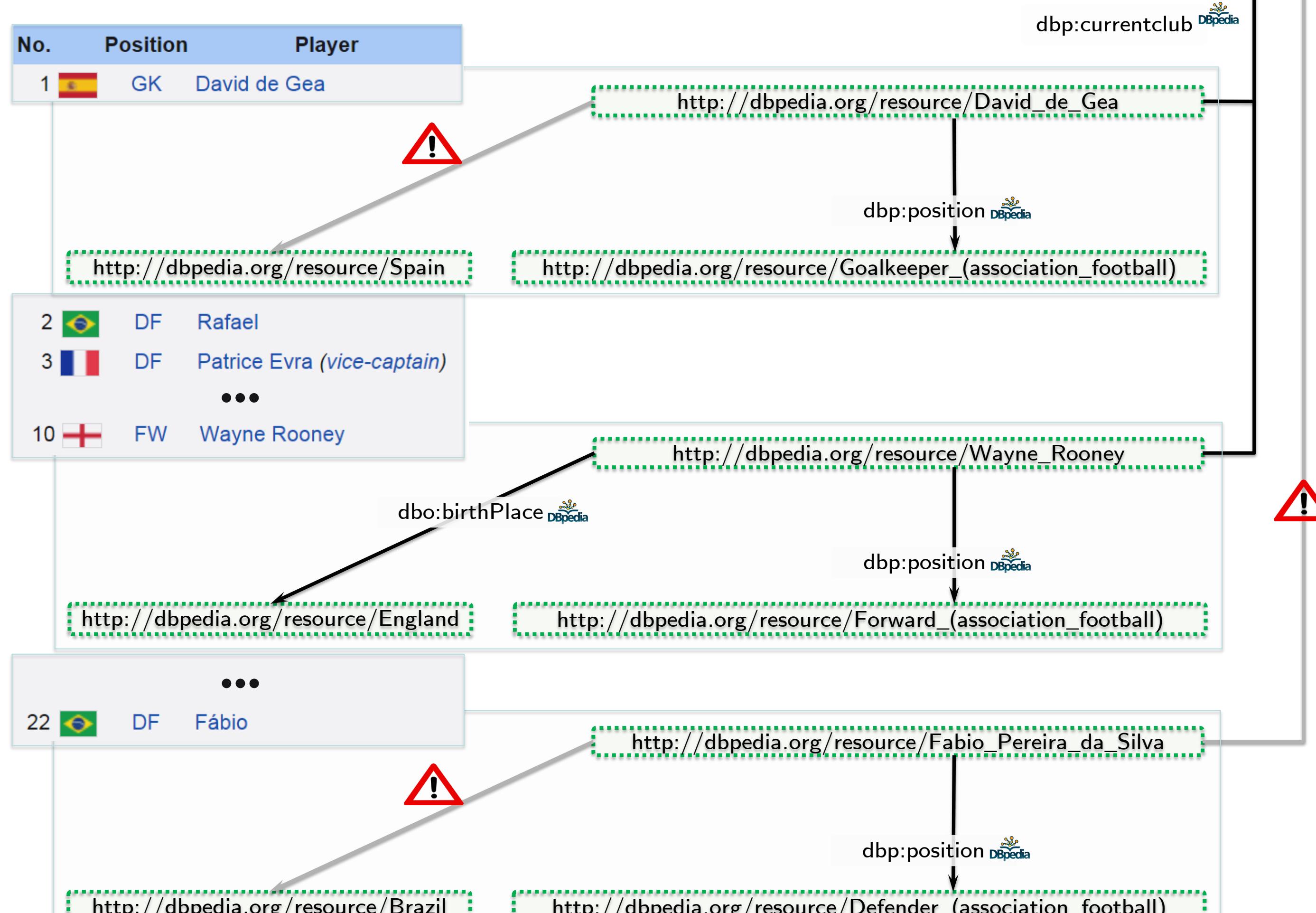
## PROPOSAL



### Manchester United F.C.

From Wikipedia, the free encyclopedia

http://dbpedia.org/resource/Manchester\_United\_F.C.

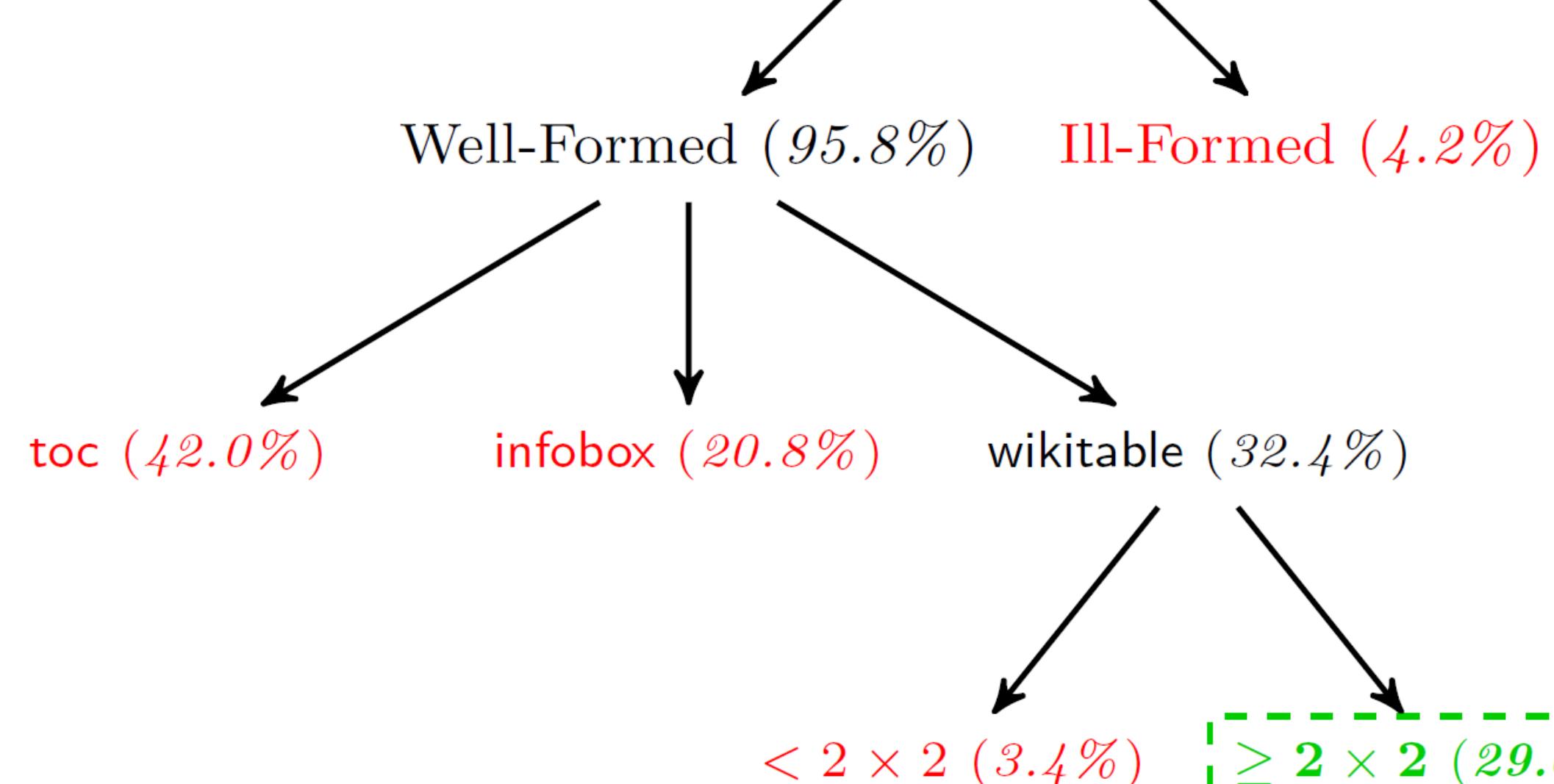


SUGGESTED TRIPLES:  
 (1) dbr:David\_de\_Gea dbo:birthPlace dbr:Spain .  
 (2) dbr:Fábio\_Pereira\_de\_Silva dbo:birthPlace dbr:Brazil .  
 (3) dbr:Fábio\_Pereira\_de\_Silva dbp:currentclub dbr:Manchester\_United\_F.C .

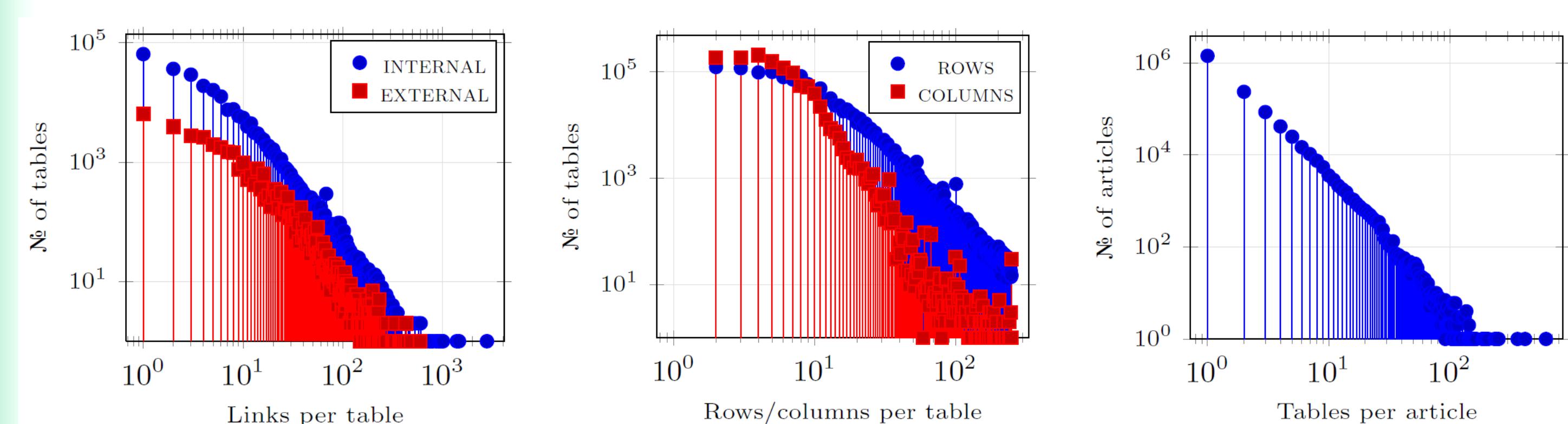
## WIKITABLE SURVEY

### TABLE TAXONOMY:

#### Wikipedia Tables (3,923,427)



### DISTRIBUTIONS:



## RESULTS

### (1) EXTRACTED 34.9 MILLION UNIQUE & NOVEL TRIPLES FROM 1.14 MILLION WIKITABLES

(8 MACHINES: 4GB RAM, 2.2 GHz SINGLE CORE; 12 DAYS)

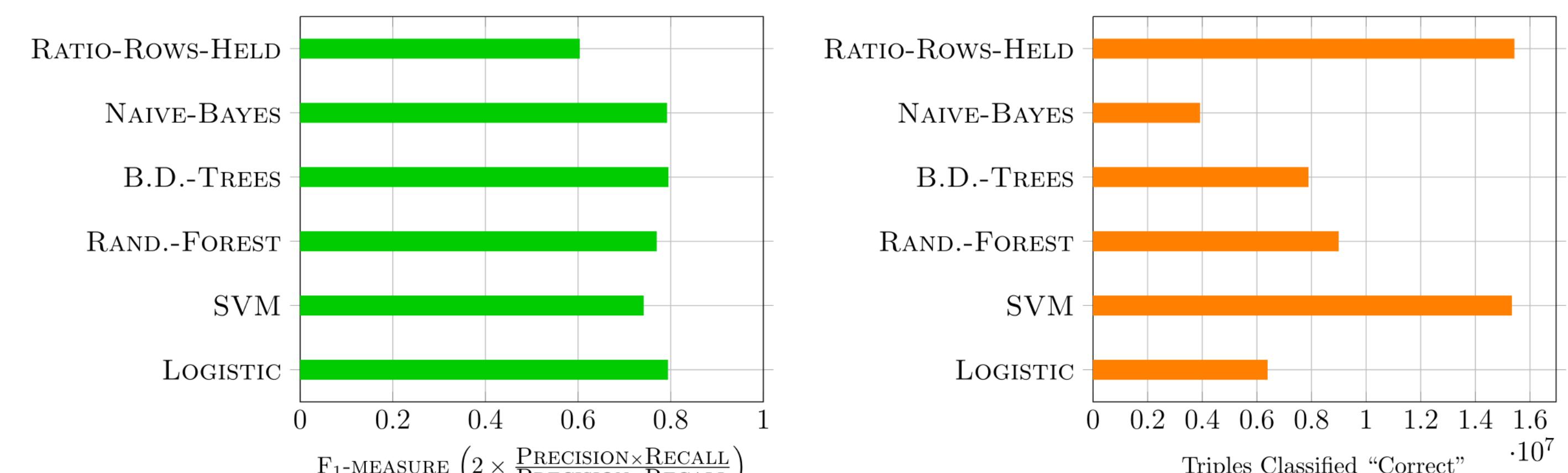
### (2) INITIAL EVALUATION:

(MANUAL ANNOTATION; THREE JUDGES; 750 TRIPLES EACH)

|  |            |              |
|--|------------|--------------|
| All correct                            | 234        | 31.2%        |
| Some correct, Rest unknown             | 27         | 3.6%         |
| <b>Positive consensus</b>              | <b>261</b> | <b>34.8%</b> |
| All incorrect                          | 195        | 26.0%        |
| Some incorrect, Rest unknown           | 48         | 6.4%         |
| <b>Negative consensus</b>              | <b>243</b> | <b>42.8%</b> |
| Some correct, Some incorrect (removed) | 246        | 32.8%        |

### (3) MACHINE LEARNING CLASSIFIERS:

(CONSENSUS GOLD STANDARD; VARIETY OF FEATURES)



### FROM 1.14 MILLION WIKITABLES:

BAGGING DECISION TREES: 7.9 MILLION TRIPLES @81.5% PREC.  
 SUPPORT VECTOR MACHINES: 15.3 MILLION TRIPLES @72.4% PREC.

DEMO ... <http://emunoz.org/wikitables>