

Soccer Key Event Extraction

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Motivation

- Soccer – One of the most watched sports in the world.
- Nearly played by 250 million players in over 200 countries.
- With the hectic schedule of working class people, no time to watch match. What to do?
- Highlights – Video , Audio and Text
- Soccer Analytics
- Many events involved in soccer – Difficult compared to other sports.

Soccer Analytics



Previous Works

- Extract highlights automatically using audio-track features.
- Visual Analytics techniques into the analysis process.
- Game-related performance of the players and teams.
- Predicting Soccer matches (Betting).
- Mobile application usage for real-time opinion sharing.
- Social Media Data for event extraction.

Data Collection

- Various available sources:
 - Goal
 - Twitter
 - BBC Sports
- Goal.com – Primary source
 - 500+ strong editorial team
 - available in 18 languages across 38 location-based editions



Commentary Data

- Contains most information in text format.
- Good source for text highlights.
- Beneficial for Blind and Deaf People.



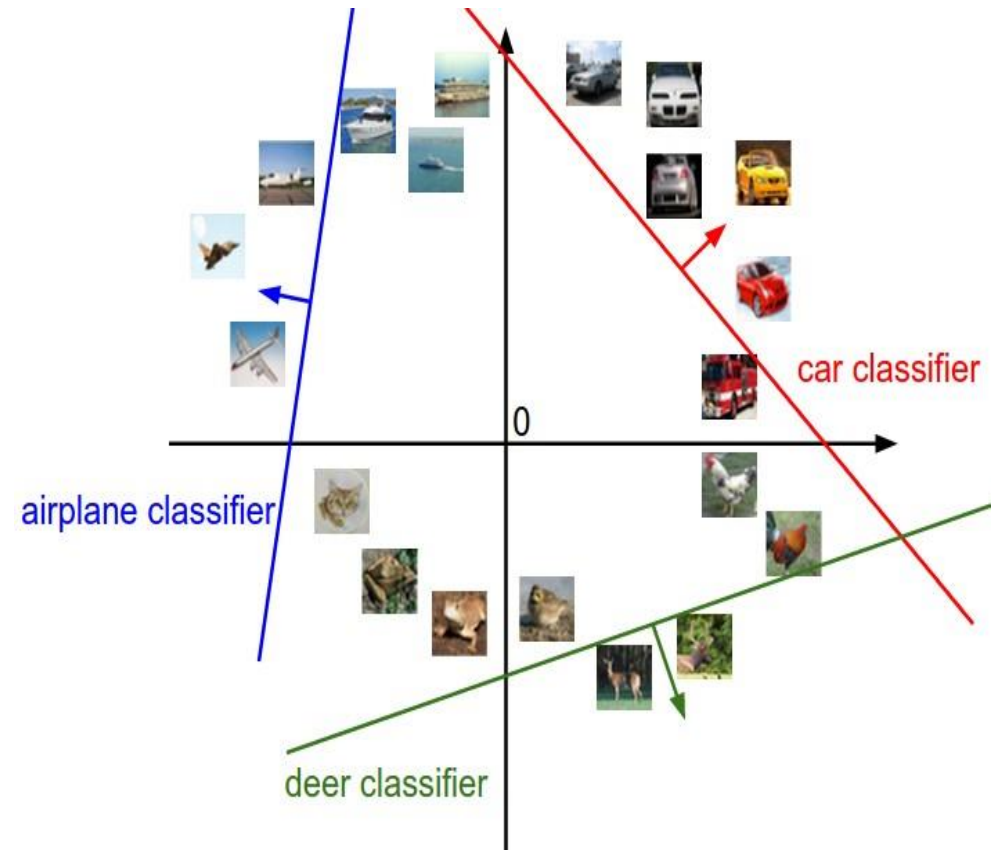
32'		Assist Łukasz Teodorczyk Teodorczyk collects the rebound and bundles the ball to Hanni for the midfielder to strike.	
32'		Goal Sofiane Hanni GOALLLL!!!! HUGE MOMENT FOR ANDERLECHT! Hanni finds the back of the net to score a crucial away goal for the Belgian outfit, hammering the ball past Romero from close range. Tielemans caused havoc in the box as his deflected strike hit the bar, while Teodorczyk did just enough to steer the ball into Hanni's path to strike with power into the net.	 
30'		Shaw makes a surge down the left flank and sends a dangerous ball across the face of goal, but Spajic gets just enough on his clearance to take it away from Lingard in the box.	
29'		SAVE! Tielemans curls the resulting free-kick over the wall, but Romero is on hand to make a comfortable save.	
28'		Hanni has his ankles clipped by Pogba and the visitors have a free-kick in a dangerous position.	

Event Types

- Goal
 - Substitution
 - Assist
 - Yellow Card
 - Red Card
 - Penalty goal
 - Penalty Save
- and many more

Event Classification

- 2 Classifiers:
- Binary Classifier – ‘Action – Not Just Action’
- Event Classifier – Goal, Assist, Substitution....



Different Models

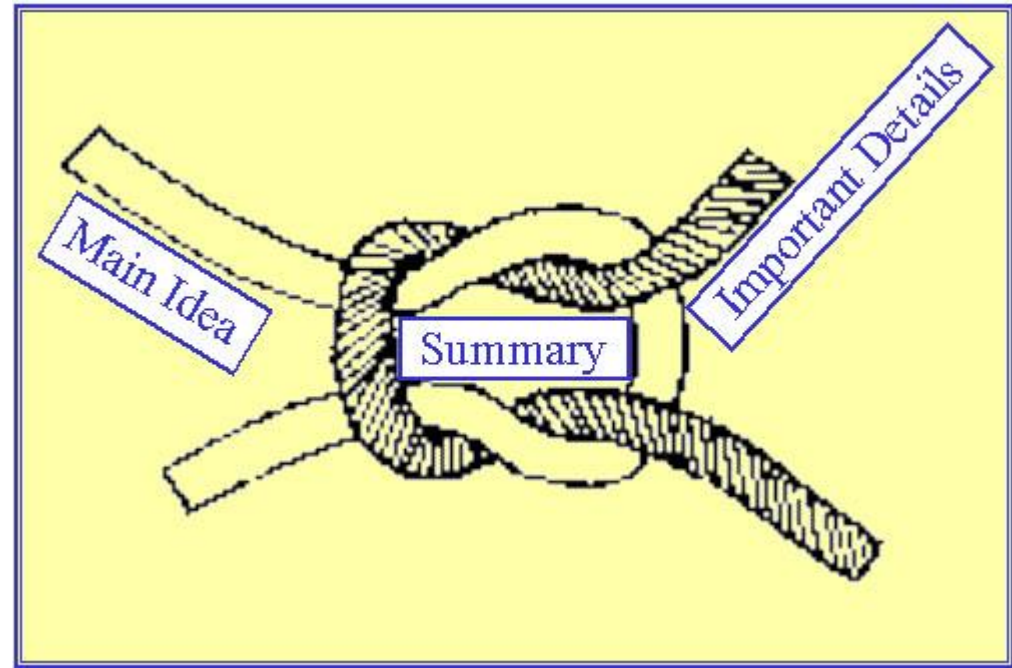
- Naïve Bayes
 - Gaussian
 - Bernoulli
 - Multinomial
- MaxEnt
 - Logistic Regression

	Precision	Recall	F1-Score
Action	0.97	0.92	0.94
Not Just Action	0.98	0.99	0.98
Avg/Total	0.97	0.97	0.97

	Substitution	Yellow Card	Assist	Goal	Penalty-goal	Own-goal	Yellow-red	Red-card	Penalty-save	Missed-penalty
Substitution	1045	0	0	0	0	0	0	0	0	0
Yellow card	0	721	1	3	0	0	0	0	0	0
Goal	0	0	509	4	0	0	0	0	0	0
Assist	0	5	7	381	0	0	0	0	0	0
Penalty - goal	0	0	9	0	18	0	0	0	0	0
Own-goal	0	0	10	0	0	6	0	0	0	0
Yellow-red	0	6	1	0	0	0	8	0	0	0
Red-card	0	1	2	0	0	0	2	3	0	0
Penalty-save	0	1	0	0	0	0	0	0	5	0
Missed-penalty	0	0	1	0	3	0	0	0	0	6

Text Summarization

- TextRank
- PageRank
- Latent Semantic Analysis



Result

Commentary 2:*Substitution sub-out Idrissa Gana Gueye sub-in Enner Remberto Valencia Lastra . Valencia replaces Gueye, as Koeman looks to take the game to Burnley a little. Barkley moves infield as a result.*

TextRank:*Valencia replaces Gueye as Koeman looks to take the game to Burnley a little.*

LexRank:*Substitution sub-out Idrissa Gana Gueye sub-in Enner Remberto Valencia Lastra .*

Future Work

- 'Saves', 'Blocks' and 'Chances'
- Rarely Occuring Events – Red Card , Penalty Missed etc
- Evaluating the player performance

QUESTIONS