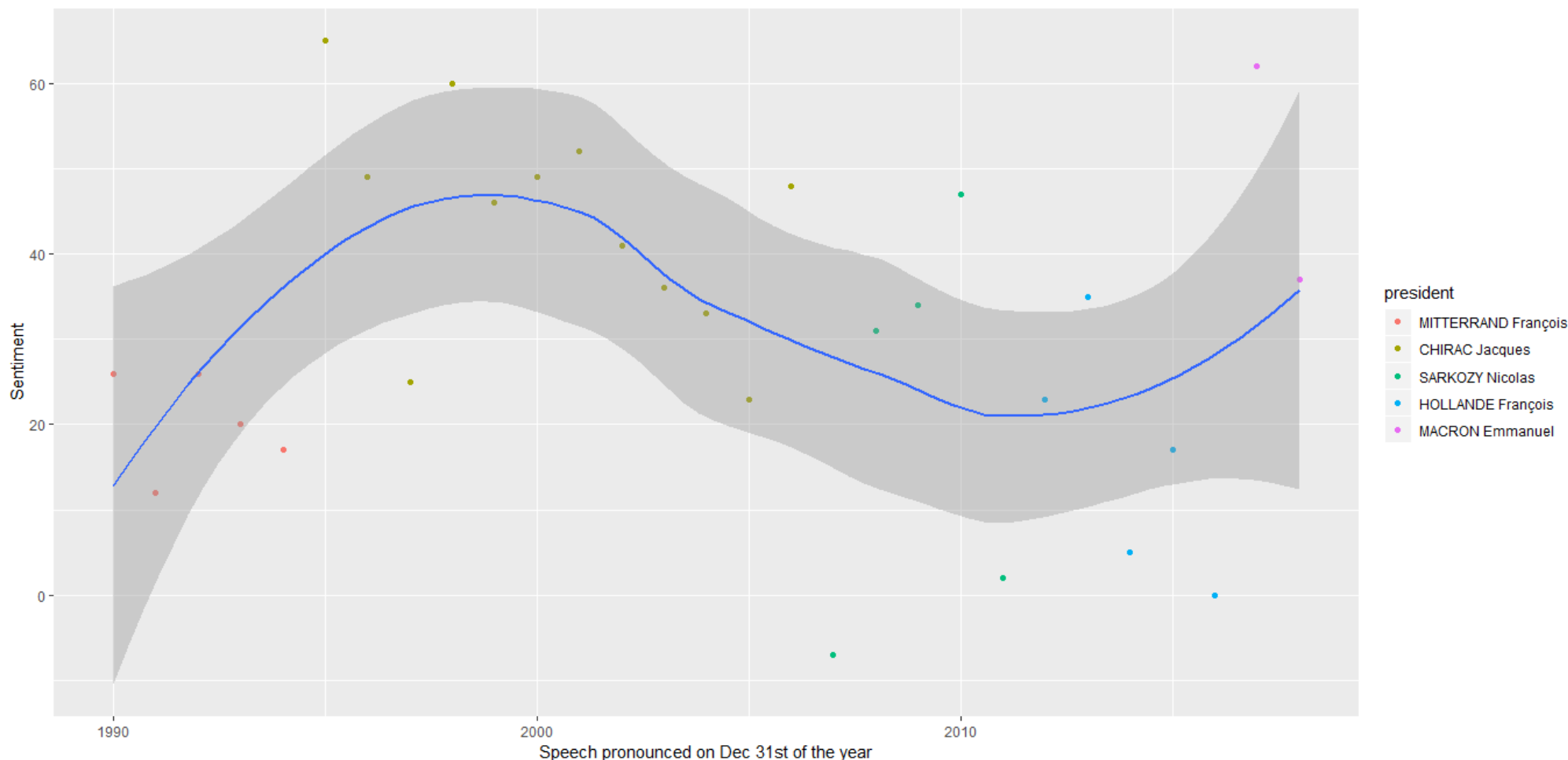# Sentiment Analysis of
President of France's speeches (1990-2018)

This document presents the results of the sentiment analysis conducted on 29 speeches pronounced on 31st december of the years 1990 to 2018 following the tradition of President's New Year's speech

Techniques used:

- Webscraping
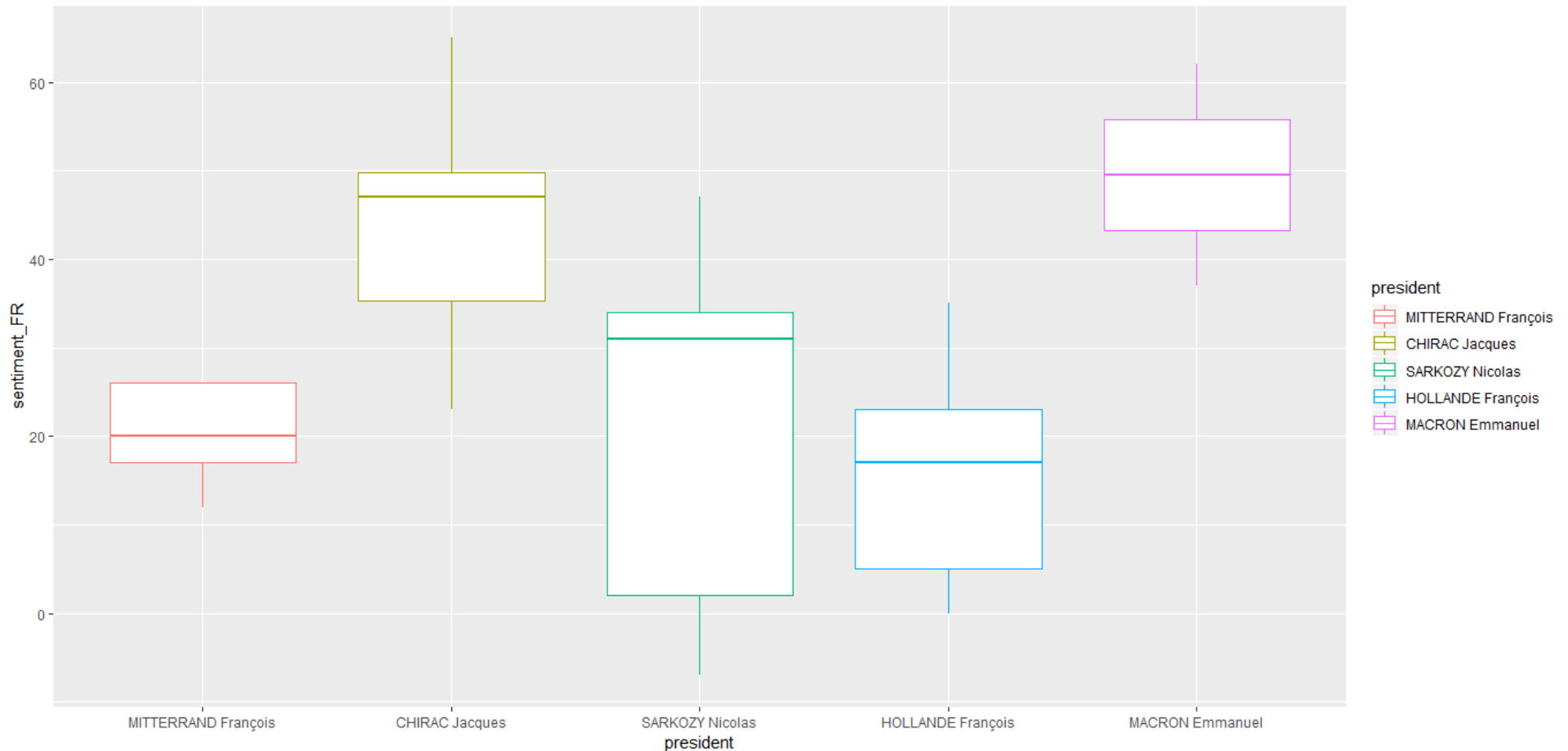- Natural language processing
- R programming

Speech sentiment change over time

The vast majority of speeches have an overall positive sentiment which makes sense because the speech is precisely about greeting the New Year and give positive views about the coming year and tell the French people to be confident in the President's political decisions. The highest points for the curve were during the 1995-2000 under Jacques Chirac's first presidency.
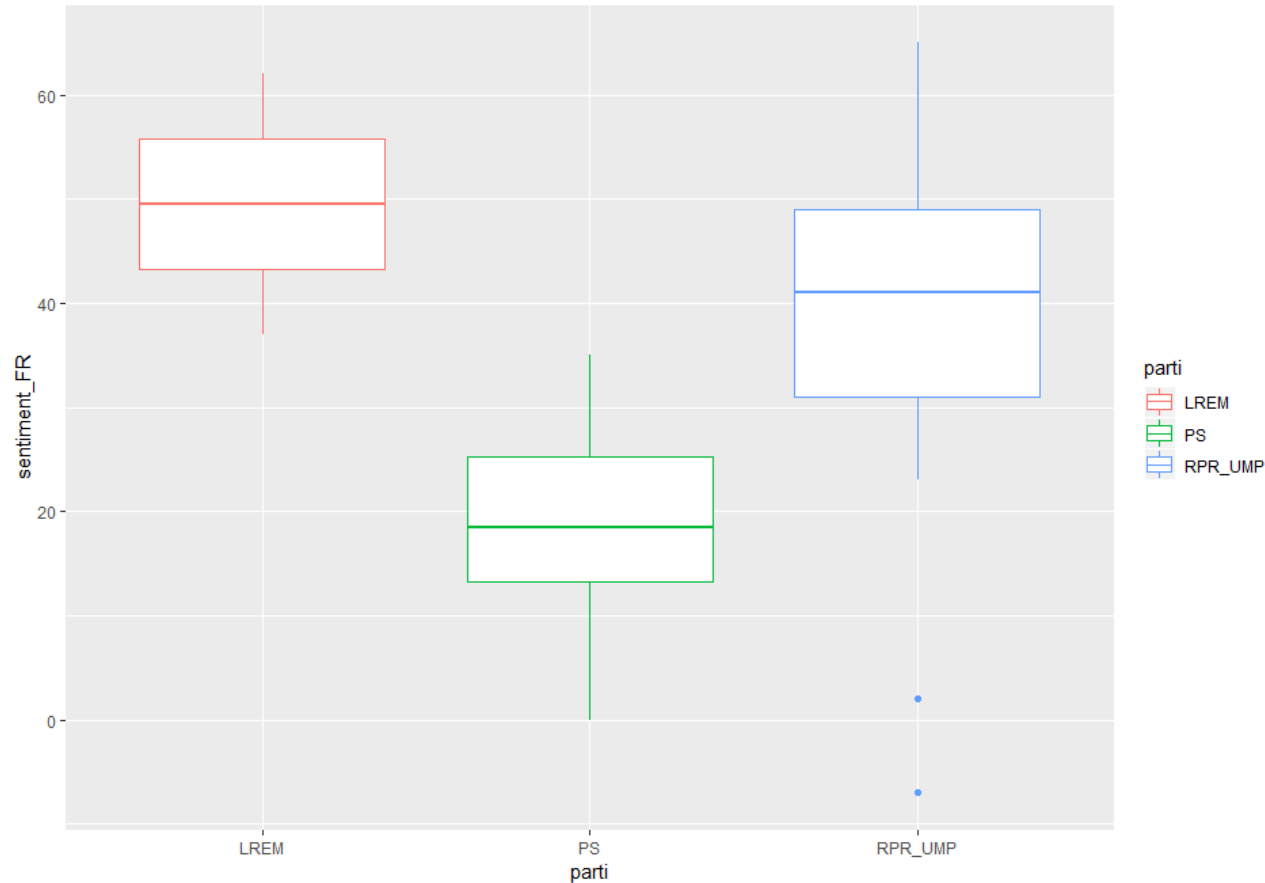
However, the overall sentiment was negative once in 2007 under Nicolas Sarkozy's precidency and was "neutral" (overall sentiment of 0) just before the last year of François Hollande's presidency in 2016.

Speech sentiment by President

The story is a little different when we look at speech sentiment by President. The highest median speech sentiment is achieved by current President Emmanuel Macron while the lowest median speech sentiment is comes from François Hollande's speeches. The biggest span in speech sentiment was during Nicolas Sarkozy's presidency. It is noticeable that, despite 12 years as a President, Jacques Chirac's speeches span is quite small, showing that a similar amount of positive words were used in all his speeches.

Speech sentiment by party

When we aggregate data by party, we find La République en Marche (President Emmanuel Macron's party) scoring the highest while Socialist Party (PS, regrouping F. Mitterand and F. Hollande) scores the lowest. The RPR-UMP, now called "Les Républicains" (The Republicans, somewhat the centre-right, conservative party in France) is in between. It is interesting to note that 2007 and 2011 sentiment speeches, under Nicolas Sarkozy's Presidency, are considered outliers.

Word clouds by year under Mitterand's Presidency

sécurité paix
plus droit
bon peur
rien
tout bien
grâce

1990

droit
reste plus
trop sur paix
mieux

1991

plus
comme
sur
tout

1992

tout
plus
commepaix
sans

1993

premier
tout
sur
plus

1994

Word clouds by year under Chirac's Presidency

1995 — possible, faire, bien, crise, comme, plus, confiance, sans, contre, nouvelle

1996 — sans, réforme, comme, sur, capable, plus, faire, forte, reculer, respect

1997 — nouvelle, temps, plus, dire, bien, trop

1998 — courage, ambition, bien, plus, nouvelles, solidarité, tout, comme

1999 — sécurité, part, peu, progrès, comme, plus, faire, bien, solidarité, toujours

2000 — comme, faire, bonne, terre, solidarité, plus, progrès, sur, utile, tout

2001 — solidarité, plus, bien, charge, faire, cohésion

2002 — responsabilité, solidarité, faire, justice, plus, tout, réformes, confiance, sur, respect

2003 — nouveaux, sur, droit, plus, grâce, tout, sans

2004 — temps, poursuivre, nouvelle, tout, sur, plus, faire, permettre, contre, réforme

2005 — respect, sur, contre, plus, tout, faire, atout

2006 — travail, sécurité, faire, dire, vive, bien, plus, sur, paix, respect

Word clouds by year under Sarkozy's Presidency

2007

2008

2009

2010

2011

Word clouds by year under Hollande's Presidency

2012

2013

2014

2015

2016

Word clouds by year under Macron's Presidency

2017

2018

About the limits of this analysis:

Much of this sentiment results (if not all) come from the sentiment lexicon in French that is available in the Github repository. One can argue a word should be considered negative instead of positive depending on context (or at least neutral). Also, this single word sentiment analysis doesn't take into acount negation words that could be placed around the sentiment world, and thus twisting the meaning.
This analysis was conducted as an experiment out of curiosity, and it was as well a way to show skills. It needs to be said that considering the potential flaws of the analysis, the autor doesn't draw any conclusion about it.

Possible improvements:

- Tuning the sentiment lexicon to show the "intensity" of the sentiment on a scale -5/+5 for instance.

- Consider multiple words expression instead of single word for sentiment analysis.

This analysis was inspired by Rachel Tatman's tutorial on Sentiment analysis in R on Kaggle
www.kaggle.com/rtatman/tutorial-sentiment-analysis-in-r