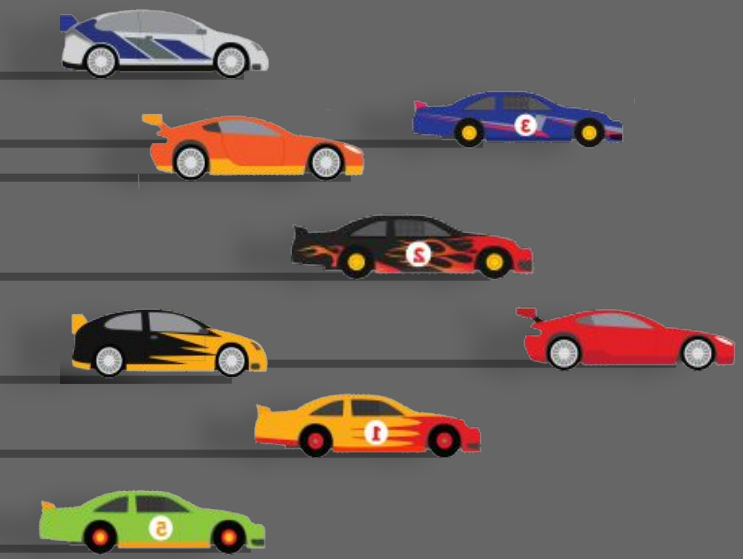


“Wow, another car flipped?”

Intents analysis and categorization in radio communication

Team

Adriano

Italy

Computer Science

Tuyen

Vietnam

Ph.D. Mathematics

Ibrahima

Mali

Ms. Mathematics

Yeeun

South Korea

Ph.D. Psychology

CONSTRUCTOR LEARNING

Rolos

NASCAR

Fast Communication

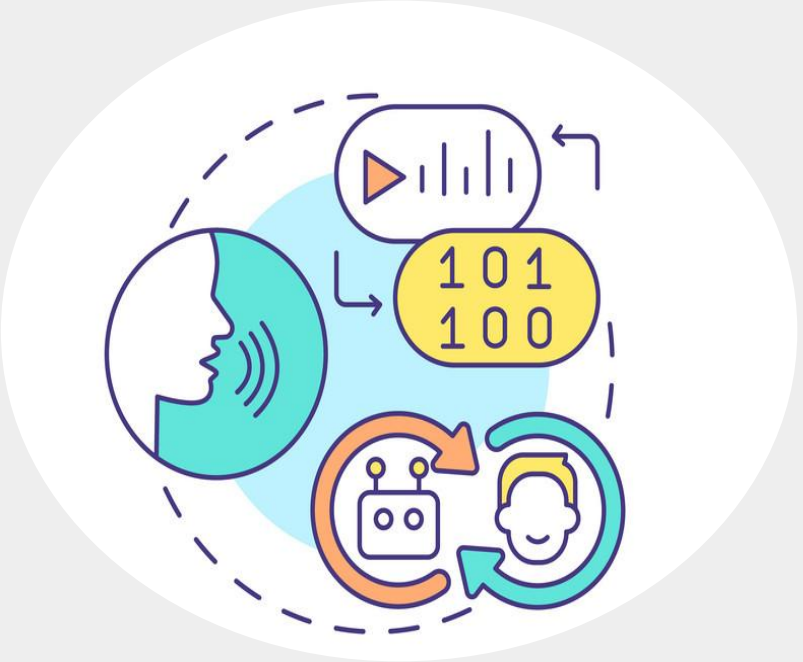
Can we automatically classify radio talk?

Accurate Communication

How accurately can we classify radio talk?

NLP

Natural Language Processing



Deep Learning

text-number-prediction

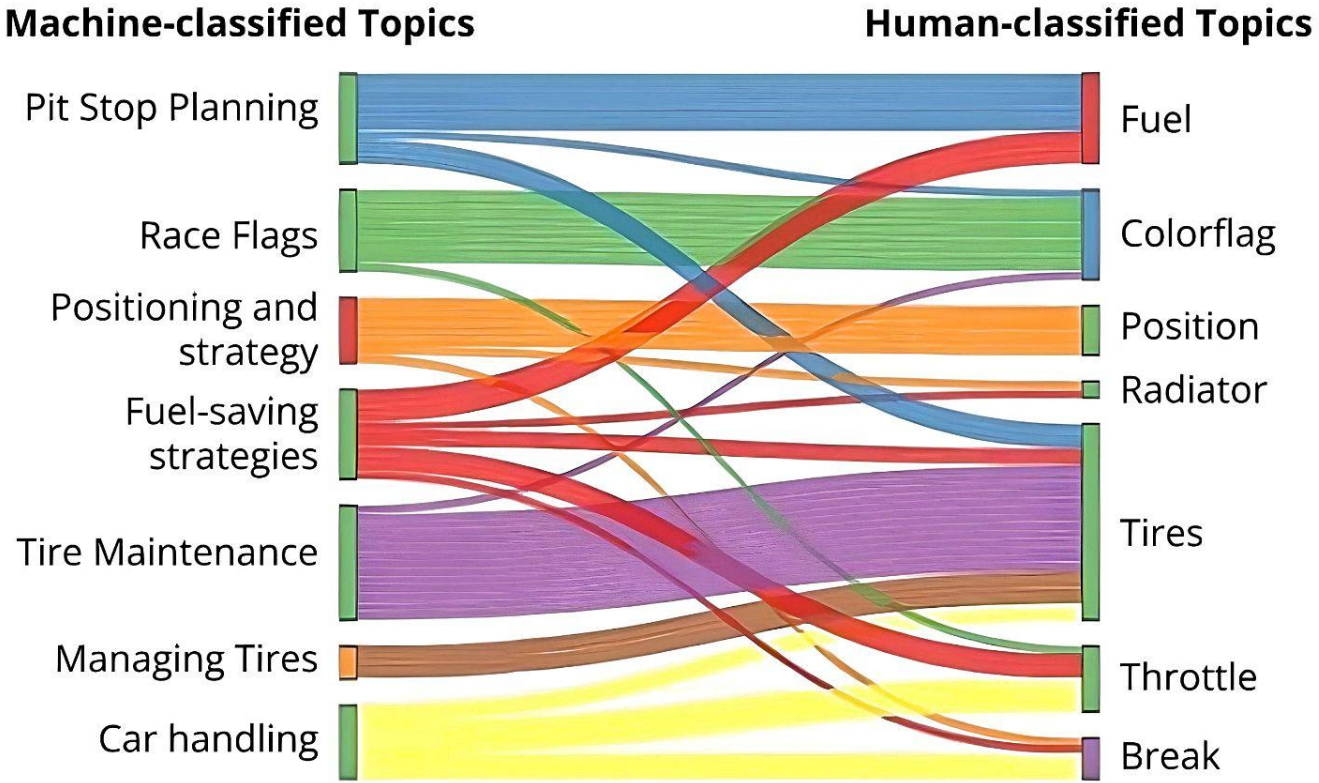
AUTOMATIC CLASSIFICATION

Unsupervised Machine Learning:

Data
22.300 radio dialogue data

Automatic topic identification
Track position, fuel, tire etc.

Topic comparison
Human-classified topics vs.
Machine-classified topics



ACCURATE CLASSIFICATION

Supervised Machine Learning:

Data
600 radio dialogue data,
29 topics

Testing pre-labelled topics
Predict dialog on 29 topics

Model comparison
More than 80% accuracy,
Which model shows accurate prediction?

SUMMARY & CONCLUSION

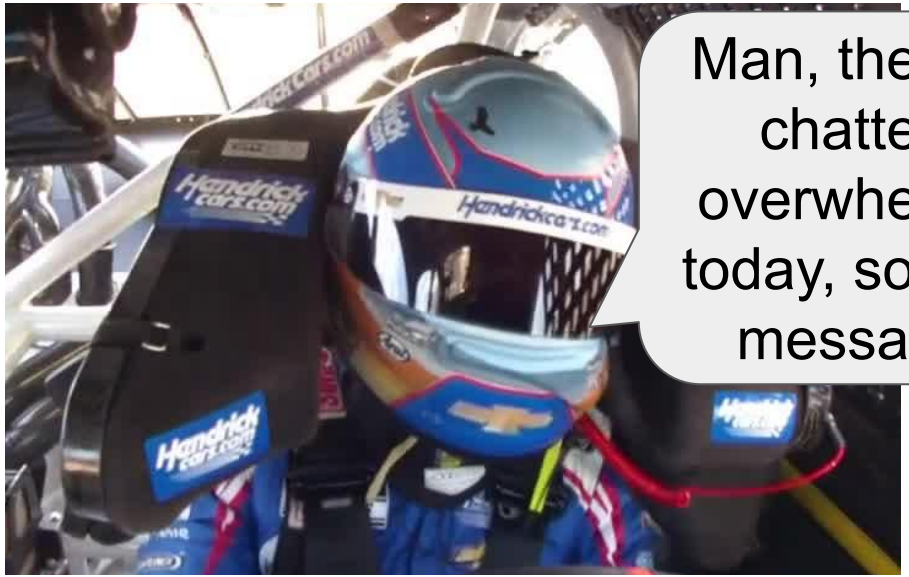
Problem
Fast & accurate
Radio communication

Automatic Topic Identification
Unsupervised learning

Accurate Topic Prediction
Supervised learning :
More than 80 % accuracy
23K talks into 29 topics in 5.98 sec.

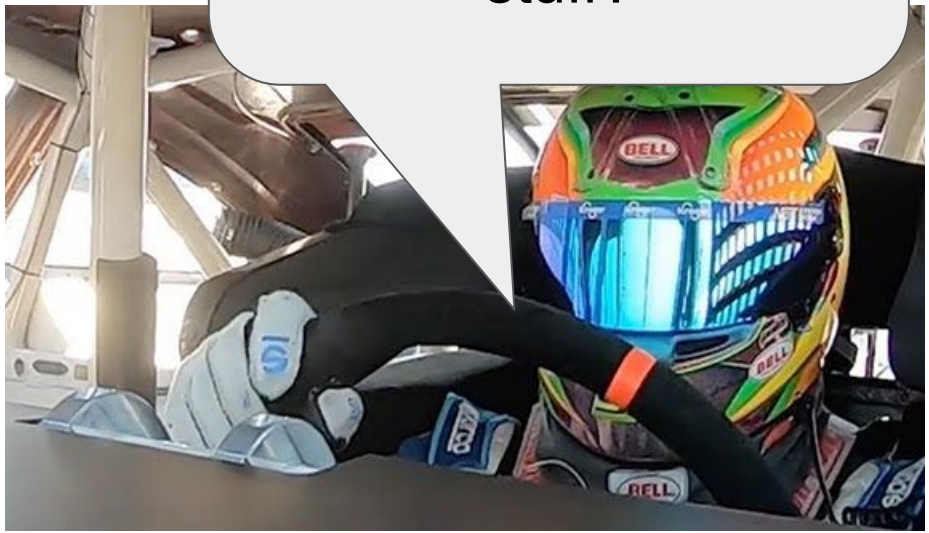
Improve NASCAR Radio Communication
Automatic topic classification
Accurate prediction of topics

Future Scope
More power and data to improve models
Effective topic modeling with more context



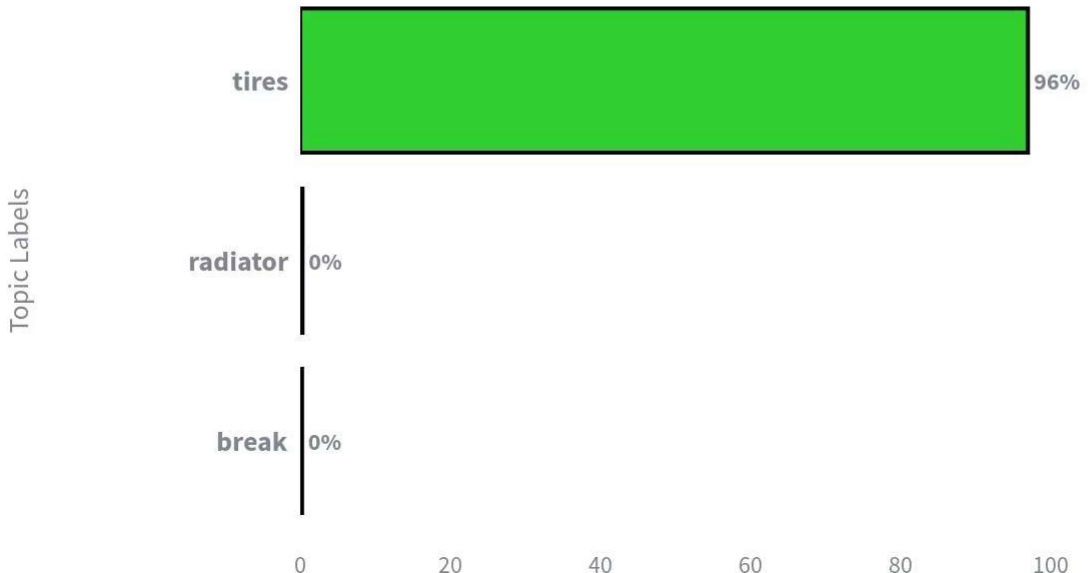
Man, the radio chatter is overwhelming today, so many messages!

Have you tried using **RadioNASCAR.com** to filter the important stuff?



The lap before you caught the 42 is one of our best laps so far, based on our old tires here.

Transformer Deep Learning for NLP Confidence



Let’s connect!

Adriano Persegani

Tuyen Nguyen Thi

Ibrahima Ba

Yeeun Kim

Let’s connect!

Adriano

Tuyen

Ibrahima

Yeeun