TELEVISION COMMERCIAL DETECTION

Identifying commercial TV clips
*24-Aug-2019*

COMMERCIAL FREQUENCY

Why has watching Television become so annoying?

➤ Your favorite shows are getting crammed with more and more commercials!

➤ The amount of commercials shown per hour on television are at or approaching all-time highs across a slew of broadcast and cable networks. *-Forbes*

➤ Average commercial time per hour is now over 15 minutes (>25% of viewing time). *-Time*

QUESTION / PROBLEM

Can video clip features be used to determine whether or not a video clip is a commercial?

Why? If we can identify them, then we can provide the option to skip them! Identification of commercial video blocks has great market value.
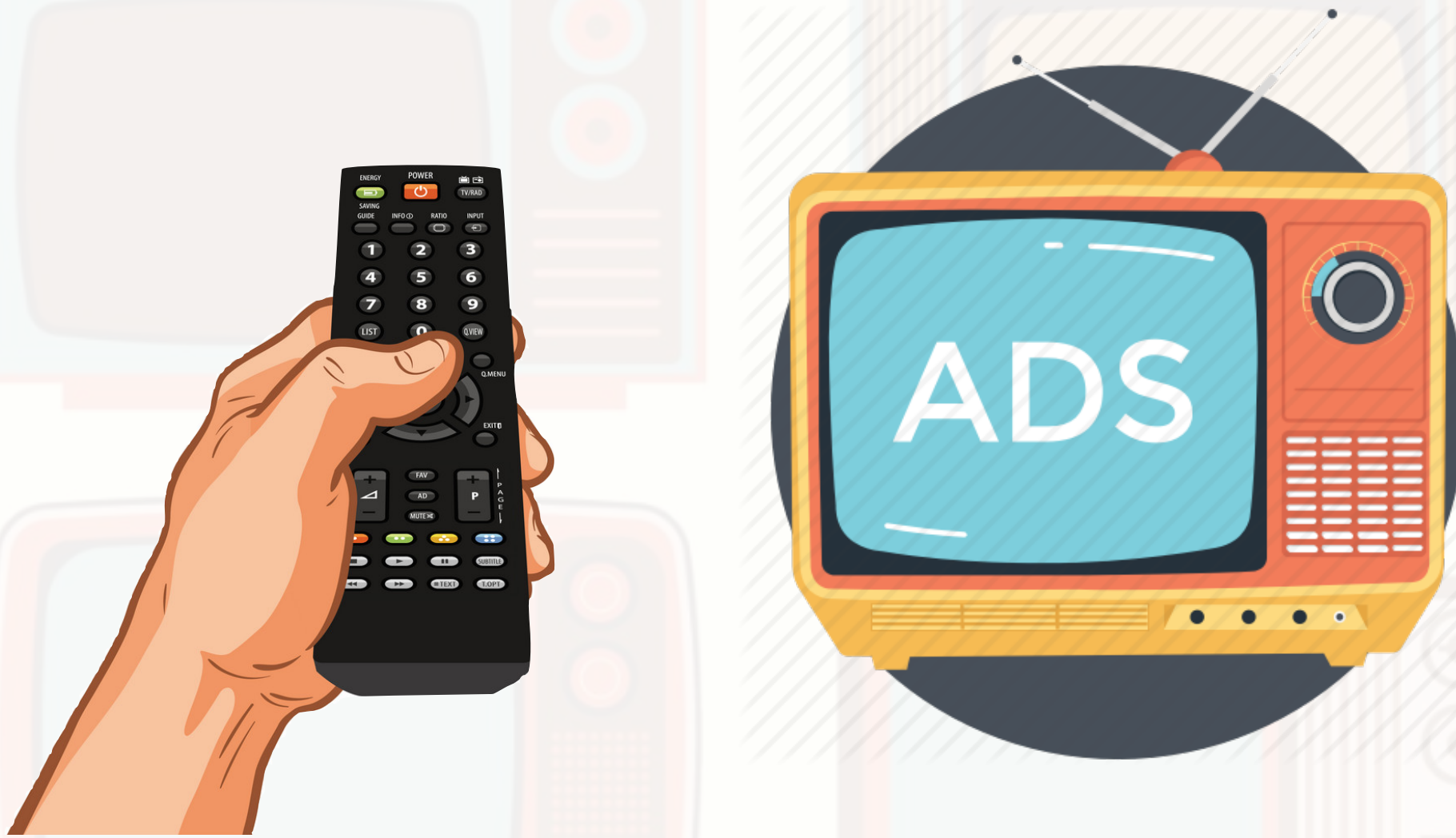
WHAT DATA HAS BEEN GATHERED?

➤ About **35,000** video clips recorded during news broadcasts.

➤ For each clip:

    ➤ 6 video signal measurements
    (related to motion distribution, frame difference, edge change)

    ➤ 12 audio signal measurements
    (related to amplitude, frequency, pitch)

    ➤ 15 on-screen text area locations

    ➤ Collection of specific words spoken
    (out of list of 111 recognized words)

MODELING TELEVISION CLIP DATA

No predictive model is perfect. It will make mistakes.

FALSE POSITIVE: We accidentally thought that our television program was a commercial.

FALSE NEGATIVE: We accidentally thought that our commercial was part of the program.

Understanding what kinds of mistakes are better or worse is paramount to good design. By building a predictor with this in mind, we will have a more satisfied end-user.
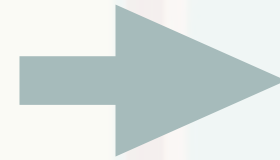
HOW GOOD ARE WE AT PREDICTING?

➤ **Recommended Prediction Model:**   11 video clip attributes.

   ➤ 6 - On-Screen Text Locations

   ➤ 1 - Video signal measurement   ➡   *90% Prediction Accuracy*

   ➤ 4 - Audio signal measurements

FUTURE WORK

WE NEED TO BE VIGILANT!

➤ **Video vignettes** - Alternative to the traditional 30-sec ads and use the actors from actual programs.

➤ **Non-conventional ads**. - A few minutes in length.

➤ **15-second ads**. - Becoming new standard in TV spots.

New types of commercials will inevitably be different to detect, but we can continue to learn and adjust our prediction capabilities to keep on top of the industry.

THANK YOU!