PROBLEM STATEMENT

WHY?
Video production is expensive. Creatives spend hundreds of hours researching ads of competitors & related products.

WHAT?
The idea is to provide inspiration to creatives in the early stages of video production. This will also free up a lot of time for other tasks.

HOW?
A data-driven ad search platform where creatives can filter on features of ads and clearly communicate ideas to clients.

CUT DETECTION
Creatives would like to cut and match shots from different videos to the right mood. Therefore, we have to come up with a way to split videos based on camera cuts.

MOOD DETECTION
The mood of each video is inferred from the background music or ads.

SIMILARITY SEARCH
We need a search platform where users can find similar ideas to clients.

RESULTS
We benchmark the performance of our model against the Google Video Intelligence Shot Change Detector API on real videos.

FEATURE EXTRACTION
Video frames are used to extract features and then classify them.

MODEL
Features are then classified using a binary classifier.

AD PURPOSE
Ads are branding or tactical in nature. How can we leverage the classification test, brand and logo to quantify the purpose of an ad?

DATA
500 videos with annotated cuts

METHOD
A model is trained on the annotated cuts and then evaluated on unseen data.

RESULTS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>LABELING</th>
<th>METRIC</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MusicNN Features v4 + Manual Features from MIR toolbox</td>
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<td>MAE</td>
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TAKEAWAYS
- Given user’s input, we return shots that have similar labels detected within them.
- A huge advantage of this approach is that, if no cuts contain a keyword, we still return something relevant. For example, if we do not have the label “cabriolet” anywhere in the cuts, we would still return cuts with “car”, “convertible” and “coupe”.

NEXT STEPS
- Front-end: Right now, Peggy accepts only keyword searches, taking images or sketches as input will enhance functionality.
- Modeling: Voiceover or narration can be leveraged to infer mood and ad purpose.
- Maintenance: GroupM can benefit from recording the details of all new ads produced in terms of the scenes, music, etc.