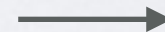
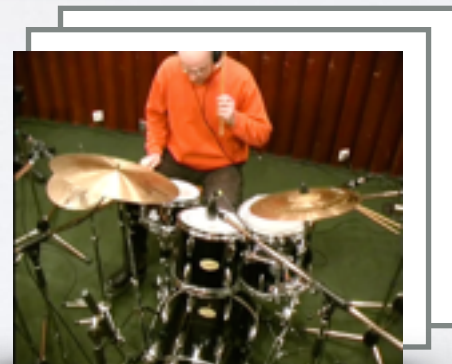
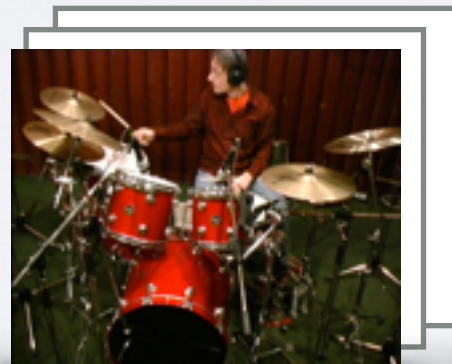
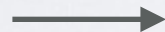


SOUNDPOUND

Input:
video



Output:
video + sound



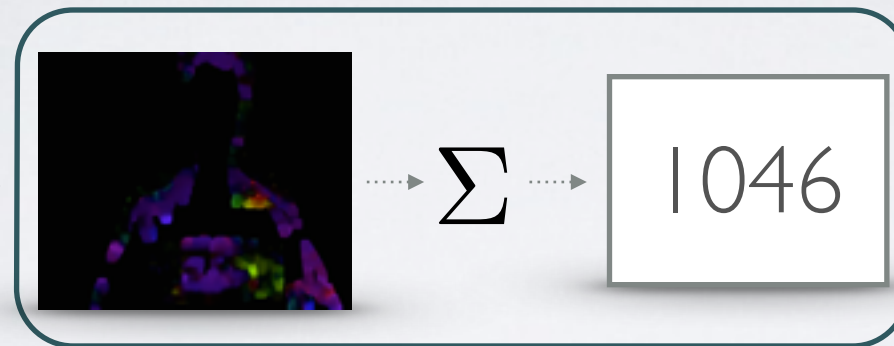
David Abel
CS295I-B
12/17/14

PIPELINE OVERVIEW

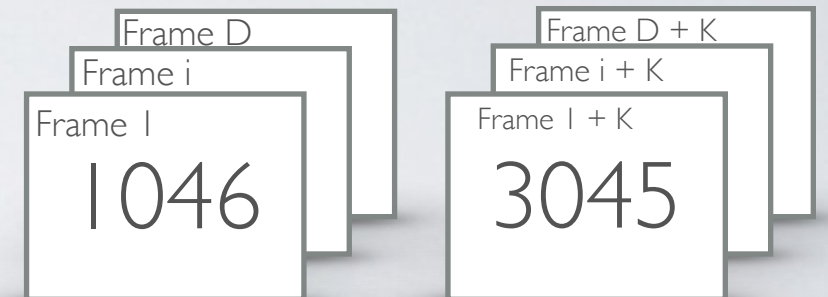
Input:
video



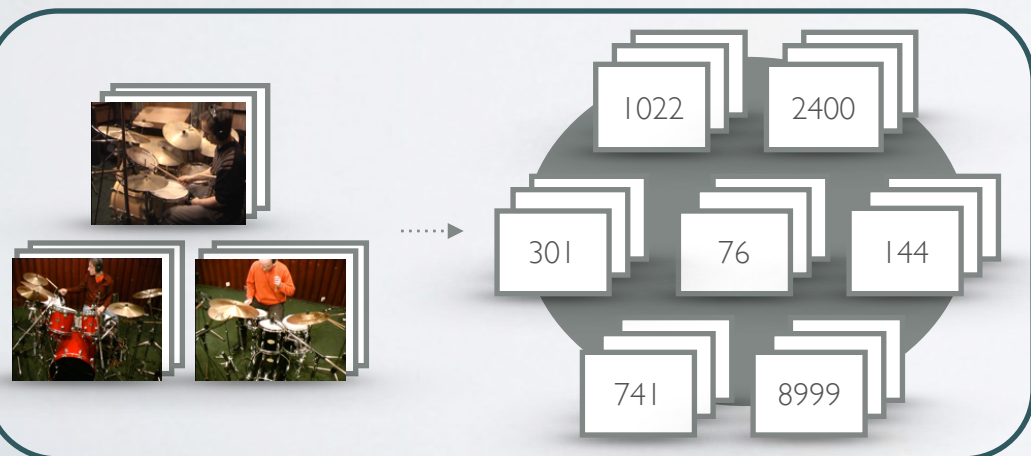
Featurize
(optical flow)



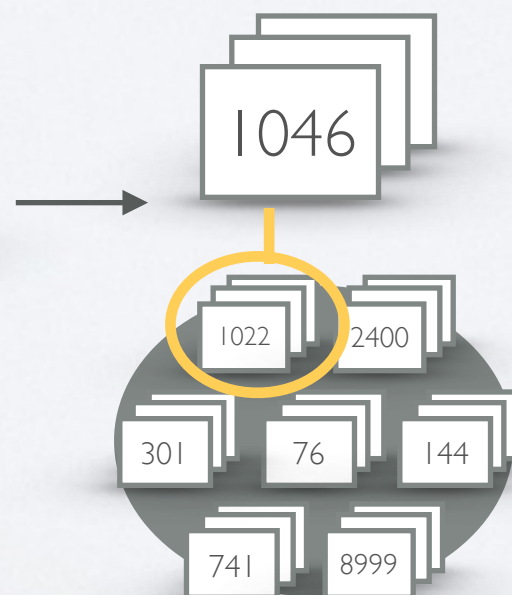
Group Frames into
Patches



Turn Dataset into Patches



Match each input patch
with Dataset (NN)



Add sound from
each matched patch



Output:
video + sound

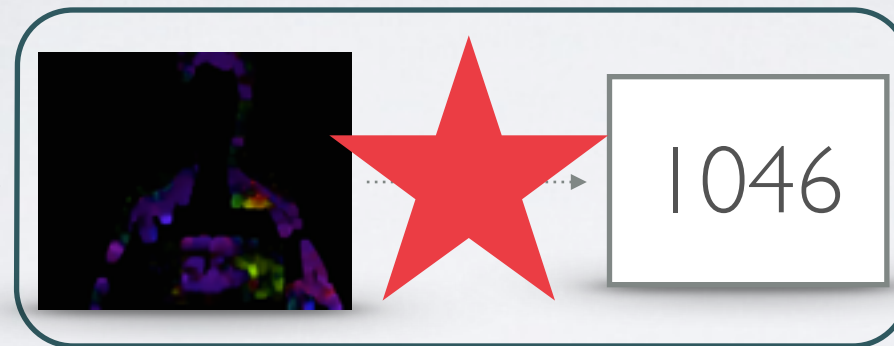


PIPELINE OVERVIEW

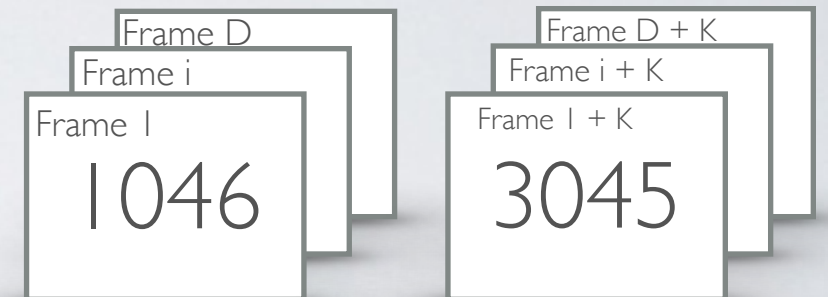
Input:
video



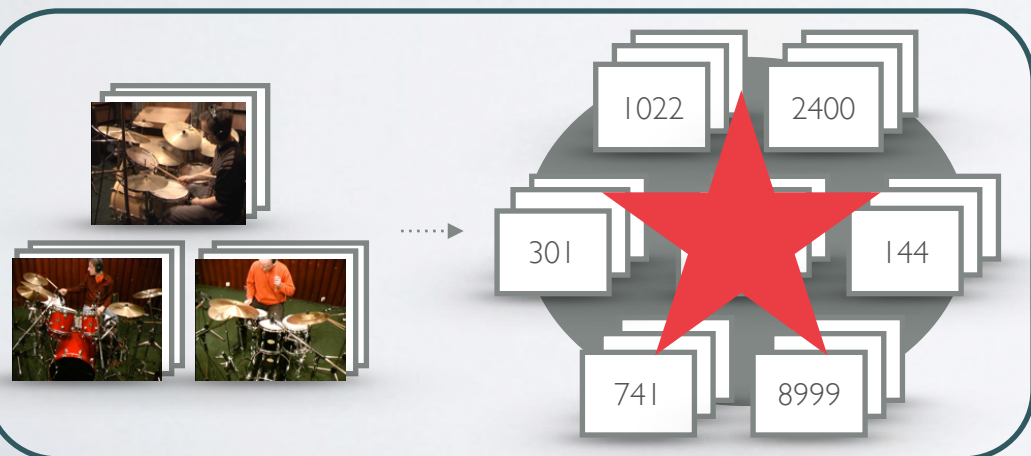
Featurize
(optical flow)



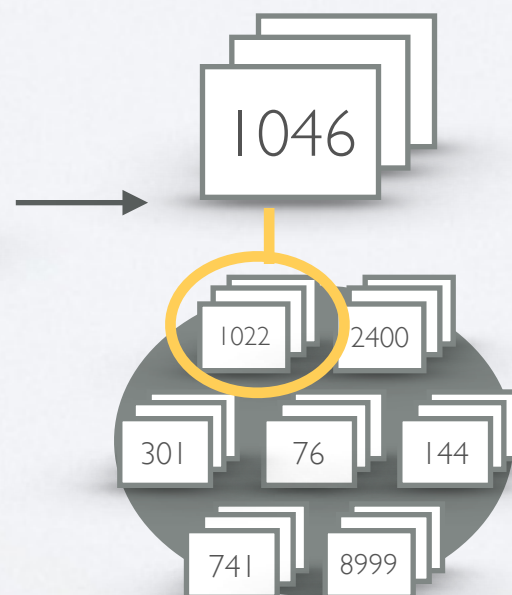
Group Frames into
Patches



Turn Dataset into Patches



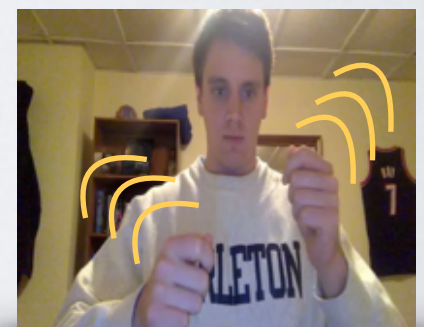
Match each input patch
with Dataset (NN)



Add sound from
each matched patch

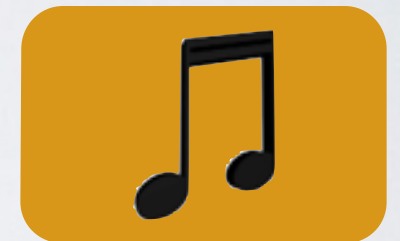
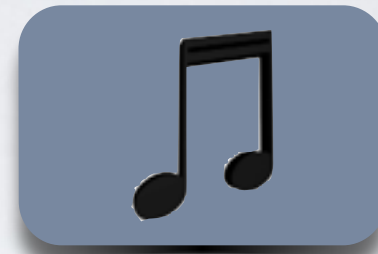
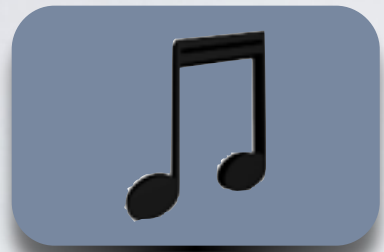


Output:
video + sound



HOW TO EVALUATE

EVALUATION



soundpound

EVALUATION METRICS

1. Mean Squared Error in SOUND per **frame**
2. Total difference in sound
3. Mean Temporal Segment Error (accounts for playing the correct sound, but playing it a bit too soon/too late)

PRELIMINARY RESULTS



NEW RESULTS

NEW RESULTS



NEW RESULTS

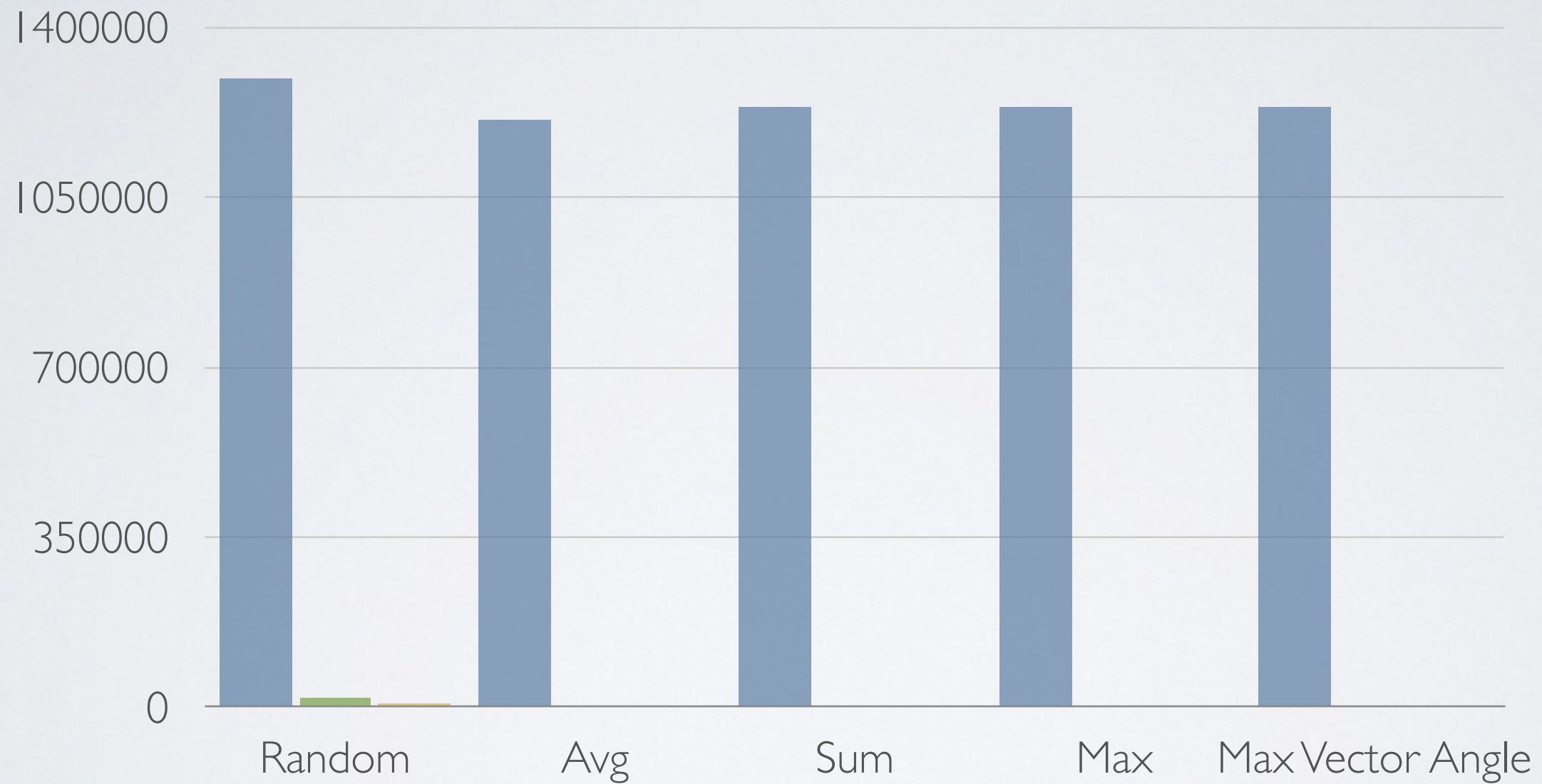


NEW FEATURES

- Random
- Average
- Max
- Sum
- Max Vector Angle

EVALUATION

PERFORMANCE



PERFORMANCE II (#DATA)

SUMMARY

- Developed full SOUNDPOUND system, works in around 20 seconds for a 10second video.
- Created quantitative evaluation framework and performed feature selection across possible representations using framework

