

DSAA Project Report:

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AIM:

Build a mapping for each of the sampled noisy slides from a frame in the video with the corresponding original slide.

Command to run script:

**python3 20171189_20171134_20171212.py <path-to-slides>/slides/
<path-to-frames>/frames/**

INPUT:

Folder containing frames i.e, noisy slides and another containing slides of original ppt.

OUTPUT:

A mapping from noisy slides to original ppt slides in a text file

Output can be found in:

20171189_20171134_20171212.txt

IMPLEMENTATION IDEA:

- The **Scale-invariant feature transform(SIFT)** is a feature detection algorithm which detects and describes local features in images.
- SIFT keypoints are extracted from images and slides.
- For each frame we iterate over all slides and get the slide with most number of matched features using **flann** matching algorithm.
- **FLANN MATCHING:**
 - From features of frames, the key points that agree on the text and its location, scale and orientation in the slides are identified using tree search.
 - Out of these good matches are found by using the **Lowe's ratio** (considering ratio to be 0.7)
 - The slide that gives the **highest number of good matches** is the slide matching the corresponding frame.