

# Automation of slide matching

## Digital Signal Analysis & Applications

March 30, 2019

- **Deadline is 2nd May 2019, 11:55 PM**
- The project has to be done using **python3** only.
- **Make a detailed report clearly explaining the process followed.**
- **Ensure that submitted project is your original work. Please do not copy any part from any source including your friends, seniors and/or the internet. If any such attempt is caught then serious action will be taken.**

### **Problem Statement.**

These days, the demand for online lectures is increasing. For better visual experience, along with the video of the lecture, soft copy of the slides is also being embedded into the video. But most of the universities are manually matching slides from the video to the soft copy which is a laborious task. So the problem statement is to automate this slide matching process.

So to be more precise, you are given a set of noisy slide images extracted from the video and a set of slides from the original ppt. You need to build a mapping for each of the sampled noisy slides with the corresponding original slide.

For example in the dataset given, consider the slides in any of the folders. You will see 4-5 frames sampled from the lecture for which the corresponding ground truth slide is ppt.jpg.

You may evaluate the performance of your algorithm on the given data. We would be testing on a more robust dataset.

Also note that the sampled frames are almost aligned with the corresponding ground truth slide using homography.

### **Submission format**

- You are allowed to use only python3 for this project. Your script will be run as `<rollno>.py <path/to/slides/directory> <path/to/frames/directory>`

- Your script should output a single file `<rollnum>.txt` which should be a list of frames with their corresponding predicted slide name separated by a single space. Go through the sample test folder shared for better understanding.

NOTE: Try to think beyond normxcorr2.

### **Dataset Link**

<https://drive.google.com/open?id=1J84AcNchprI0DndeaTVFSUZWF2lMo5uu>