

India Police Hackathon 2019 Registration

* Required

Team details

Team Name *

Sarvatra

Team Leader Name *

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Name of the Organization *

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Team Leader Address *

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Problem statement 

Select the problem statement *

Facial Recognition 

Pre Selection Questions 

1. Motivation: Why do you think this problem is worth solving?
What are the foreseeable outcomes? (75 words) *

Facial Recognition plays a prominent role in identification and tracking of Criminals/Missing Persons. Its significance is even more pronounced in the era of Social Networks, Live Video Streams (from public Cameras) and Video Recordings (obtained during investigations). It can prevent habitual John-Doe Criminal (whose photograph is available) by generating his all age photos and searching him across the Internet. This system quickly locates a person in a video footage and can be integrated with CCTNS.



2. Explain how you would build your product within the 36 hours and explain in detail the architecture and tools you are likely to use (50 words) *

We will follow modular approach for developing the product. Each member of our team specialises in a specific sub-domain - Computer Vision and Deep Learning (GAN, CNN), Machine Learning, Image Forensics and OSINT. We endeavour to concurrently work on our separate modules independently and finally integrate them into a single product.

3. Please list possible Input test cases and the Output you expect (50 words) *

We require face data-set (like CELEBA, UTK, any missing person data-set) for generating facial features of a person. After certain degree of training we will be able to locate the person within large databases and videos containing those persons. We will also generate various synthetic images of the same person (at different ages and different styles).

4. Explain your choice of the dataset for experimentation: Why do you think the data you are planning to use is relevant and sufficient? Please cite the source if the data is public or argue for a choice of synthetic data generation. (75 words) [Please mention "not required" if no dataset is needed] *

We require face dataset (like CELEBA, UTK, any missing person dataset) for generating embeddings of a person face.

<http://mmlab.ie.cuhk.edu.hk/projects/CelebA.html>

<http://aicip.eecs.utk.edu/wiki/UTKFace>

5. Parsimony Sourcing: Are you going to use large heterogeneous virtual computing power (Colab/AWS/G-Cloud etc)? If Yes, why? (30 words) *

We intend to use Deep Learning with Transfer Learning to save computation time while training the data set. At testing time, model will not require much computing power and can be run on a single device/ IOT device.

6. Please list the Laptop/Desktop/HW configuration you're planning to use. (50 words) *

We will be using different laptops. Our average configuration is Intel Core i5 (8GB DDR4/1TB HDD). We intend to use SSD (256GB) with GPU server (if possible) or an equivalent GPU (\geq Nvidia 1050ti).



7. Have you participated in any hackathon and secured a prize? *

No but I have organised Milbotics (simil

Synopsis of the Problem Statement

Write down the Synopsis of the Problem Statement selected.
(100 words) *

This system endeavours towards comprehensive solution for facial-features based Identification and Tracking. It can search subjects across the web and will be able to locate them within several live video streams. It expedites the investigation by quickly tagging the subject in any specific video footage. We also intend to generate all possible photos of a specific person (at various possible ages) to create a database of long missing persons. This can later be extended to build publicly accessible/queried image database of habitual John-Doe fraudsters. The same can be used by vigilant citizen for identifying criminal before next fraud is committed.

Terms & Conditions

I agree to the terms and conditions *

☒ Yes

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