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| **College** | **R. V. College of Engineering, Bangalore** | | | | |
| **Department** | **Department of Computer Science and Engineering** | | | | |
| **Course** | **B.E.** | | | | |
| **USN Nos.** | **1RV15CS001**  **1RV15CS007**  **1RV15CS053** | **Student Names** | | | **AS Karthik**  **Abhishek Krishna**  **Gagan Deep G** |
| **Project Title** | **Video summarization in urban environments** | | | | |
| **Project Type (In-House/Internship)** | **In-House** | | | | |
| **Under taken at** | **RVCE** | | | | |
| **Internal**  **Guide** | **Dr. Ramakanth Kumar P**  **Professor and HoD, CSE** | | **External Guide** | **NA** | |
| **Stipend Amount** | **NA** | | | | |

**SYNOPSIS**

**INTRODUCTION:**

CCTV cameras are found in almost every public place today and there are millions of surveillance cameras are in use across the country. Large amounts of CCTV footage are generated every hour, and most of the footage is mostly sparsely distributed with events. Manual analysis of footage is laborious and time consuming. There is need for smart tools to generate useful insights and summaries.

**OBJECTIVE:**

* Develop a video-summarization technique
* Experiment with different techniques to efficiently overlap events for creating the summary
* Develop a smart method to query the video
* Develop a GUI and host it as a service in the cloud

**METHODOLOGY:**

* Background masking
* Motion detection
* Object detection
* Optical flow calculation
* Object Indexing
* Flow rearrangement
* Generation of summary

**Software Requirements:**

* Python3
* OpenCV
* Keras and Tensorflow
* Jupyter notebook

**Hardware Requirements:**

* CCTV camera of suitable resolution
* Modern x86 based computer
* GPU for accelerating object detection

**INNOVATION / CONTRIBUTION TO THE FIELD:**

We are planning to implement a smart search-based summary which is generated based on the given keyword/query. It can be used to generate summaries of specific objects.

**Internal Guide Signature of the HOD**

**Dr. Ramakanth Kumar P. Dr. Ramakanth Kumar P.**

**Prof. & Head of the Dept, CSE Prof. & Head of the Dept, CSE**

**R. V. College of Engineering R. V. College of Engineering**

**Committee members (Name and Signature)**