

FIRE DETECTION USING OPENCV AND G-STREAMER

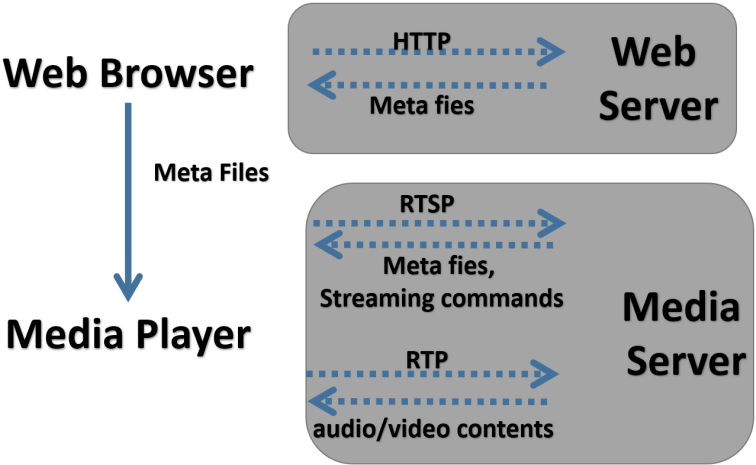


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METHODOLOGY



In our project, we are using RTSP (Real Time Streaming protocol), to transfer real-time data from multimedia to an endpoint device by communicating directly with server streaming data.

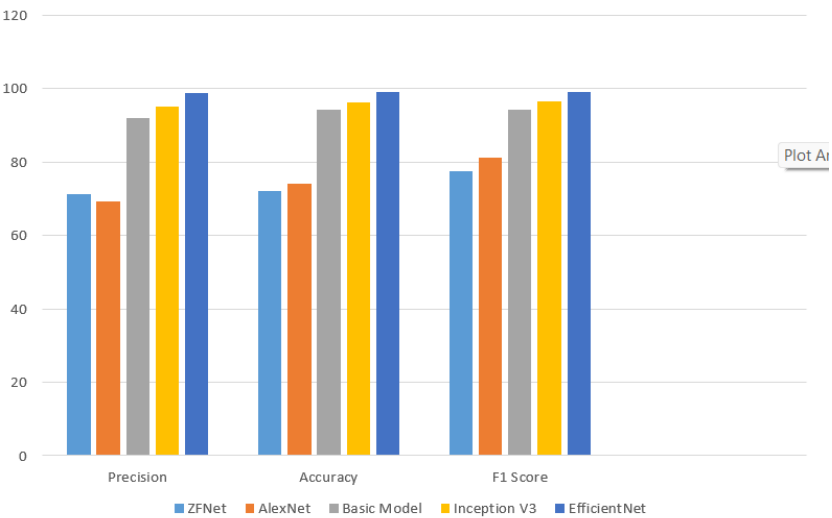


Efficient-Net is a convolutional neural network architecture and scaling method that uniformly scales all dimensions of depth/width/resolution using a compound coefficient.

Gstreamer is being used in our project as it can process the streamed media easily, has cross-platform support and multimedia technologies coverage.

ANALYSIS

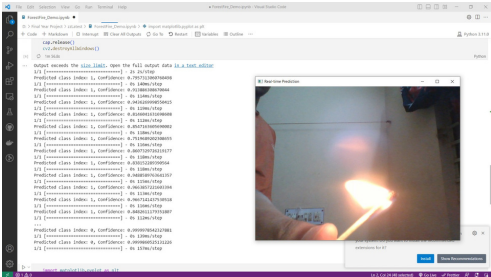
ANALYSIS OF THE DIFFERENT MODELS



PARAMETER	VALUES
LEARNING RATE	1.40E-04
BATCH SIZE	32
EPOCHS	5
OPTIMIZER	ADAM OPTIMIZER
LOSS FUNCTION	BINARY CROSS ENTROPY
KERNEL SIZE	3X3
ACTIVATION FUNCTION	SIGMOID
REGULARIZATION METHOD	DROPOUT
REGULARIZATION RATE	0.5

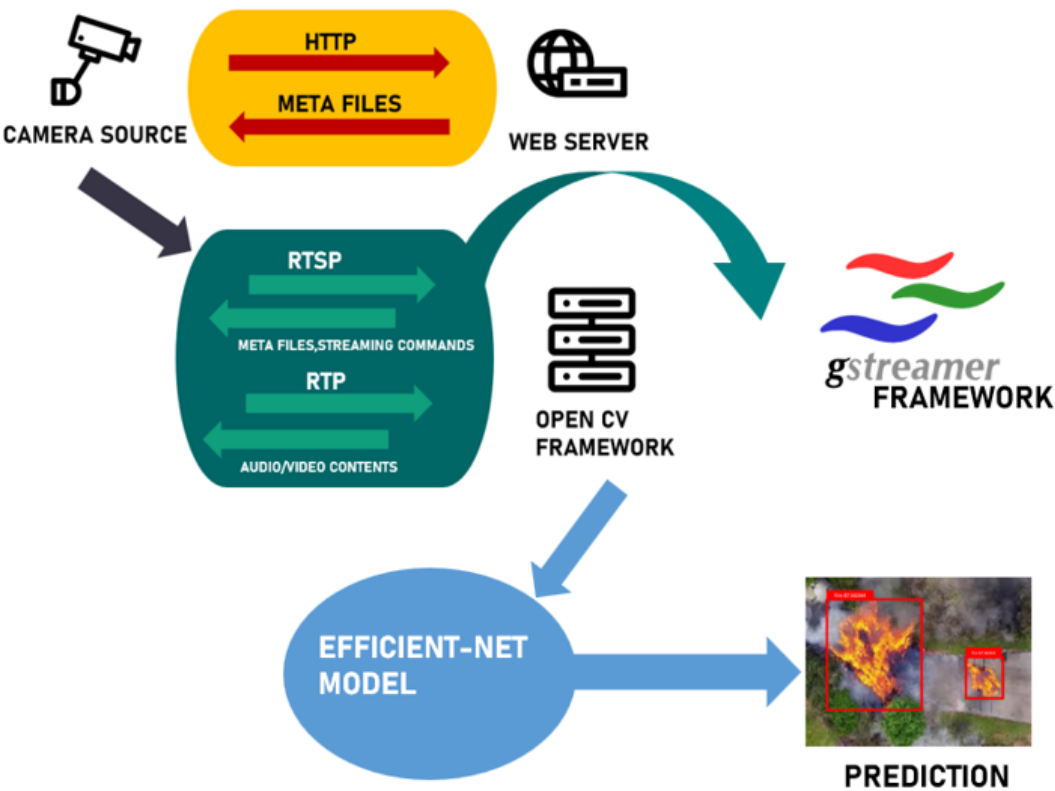


Original Image



Showing 0(zero) for Fire

PROPOSED PLAN



FROM CAMERA SOURCE, VIDEO INFORMATION SEND TO LOCAL HOST, USING RTSP PROTOCOL(GSTREAMER FRAMEWORK).

IN THE LOCAL HOST, OPEN CV FRAMEWORK TAKES THE VIDEO INPUT AND SENDS FRAMES TO EFFICIENT-NET MODEL.

EFFICIENT-NET MODEL MAKES THE PREDICTION ON THE INFORMATION, TO PREDICT FIRE.