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(54) Title of the invention : EARLY ACTION PREDICTION USING DEEP LEARNING FRAMEWORK FOR ANOMALY DETECTION FROM SURVEILLANCE VIDEOS BY RECURRENT RESIDUAL INCEPTION V3 AND LSTM

<p>(51) International classification :H04N0007180000, G06N0003040000, G06N0003080000, G06K0009620000, G06K0009000000</p> <p>(86) International Application No :PCT// Filing Date :01/01/1900</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant : 1)D.MANJU Address of Applicant :Assistant Professor, Department of CSE, G. Narayanamma Institute of Technology & Science, Autonomous, Shaikpet, Hyderabad – 500104, Telangana, India. -- ----- 2)Dr.M.SEETHA 3)Dr.P.SAMMULAL Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor : 1)D.MANJU Address of Applicant :Assistant Professor, Department of CSE, G. Narayanamma Institute of Technology & Science, Autonomous, Shaikpet, Hyderabad – 500104, Telangana, India. ----- ---- 2)Dr.M.SEETHA Address of Applicant :Professor & HOD, Department of CSE, G. Narayanamma Institute of Technology & Science, Autonomous, Shaikpet, Hyderabad – 500104, Telangana, India. ----- ---- 3)Dr.P.SAMMULAL Address of Applicant :Professor, Department of CSE, JNTU H College of Engineering, Jagtial, Nachupally,(Kondagattu), Kodimial Mandal, jagtial Dist, Telangana, 505501, India. ----- -----</p>
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(57) Abstract :

Video surveillance has become very significant in the contemporary era as it has many benefits to public and governments. It is made using Closed-Circuit Television (CCTV) surveillance cameras. It can help in identifying abnormal events that can help in many applications of computer vision. The current invention is the result of a hybrid model for anomaly detection from surveillance videos. It includes deep learning models such as Long Short Term Memory (LSTM) and Recurrent Residual Inception V3 model. It exploits the concept of unravelled view that is viewed as a collection of many paths instead of single deep network. Recurrent Residual InceptionV3 network makes use of both inception v3 block and residual block to increase training efficiency and reduce execution time. Inception V3 block is capable of handling more data while residual block strives to increase accuracy. LSTM model is trained in order to have better prediction of events. The current invention is equipped with a strong pre-processing phase for improving performance. The pre-processing has ensemble kind of behaviour for leveraging quality of the deep learning models. It has potential to reduce execution time and improve prediction accuracy. This invention benefits many stakeholders such as police, law enforcing agencies, governments, legal entities involving law proceedings, researchers and academia.

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