**Algorithm: Training**

**Input:** Images from dataset

**Output:** Probability of smoke prediction

**Begin**

Initially layers🡨4, fc\_layers🡨1, img🡨retrive images from dataset, weight🡨random, biases🡨random, filter🡨 2X2, learning\_rate🡨0.001, epoch🡨10

**//Forward Propagation**

**for** each epoch

**for** each layers

X🡨img\*filter

A🡨Relu(X)

**end for**

**for** each fc\_layer

Z=weightT.A+biases

Output=Sigmoid(Z)

**end for**

**end for**

**//Backward Propagation**

**for** each layer-1 to 1

find error

update weight and biases

**end for**

**end**

**Algorithm: Testing using images**

**Input:** Images from dataset or real time images

**Output:** Prediction of smoke and an alarm

**Begin**

Initially img🡨retrive images

**if** (prediction\_probability(n+i)>0.5) **then**

Smoke, alarm

**else**

No smoke

**end if**

**end**

**Algorithm: Testing using videos**

**Input:** Video from CCTV installed in forest

**Output:** Prediction of smoke and an alarm

**Begin**

Initially vid 🡨 video from CCTV, n 🡨0

**for** each frame n in vid

**if** (prediction\_probability(n)>0.5) **then**

i🡨1

**for** each frame (n+i < = n+3) in vid

**if** (prediction\_probability(n+i)>0.5) **then**

Smoke, alarm

**else**

flase detection

**end if**

i🡨i+1

**end for**

**else**

No smoke

**end if**

n🡨n+25

**end for**

**end**