#coding and solutioning the code are for model building and testing with image

The zipped file is unzipped. and the dataset is extracted.

```
!unzip '/content/archive.zip'
```

```
Archive:   /content/archive.zip
  inflating:
Dataset/Dataset/test_set/forest/0.48007200_1530881924_final_forest.jpg

  inflating:
Dataset/Dataset/test_set/forest/0.64133000_1519374442_forest_deep.jpg

  inflating:
Dataset/Dataset/test_set/forest/0.72918000_1559733279_forests1_gettyim
ages_.jpg
  inflating:
Dataset/Dataset/test_set/forest/0.98884800_1554454572_spin.jpg
  inflating:
Dataset/Dataset/test_set/forest/01_NeilBurnell_Mystical_photoverticall
.jpg
  inflating:
Dataset/Dataset/test_set/forest/091318_LH_forest_loss_main_FREE.jpg
  inflating: Dataset/Dataset/test_set/forest/1009821.jpg
  inflating:
Dataset/Dataset/test_set/forest/111188170_river_in_the_mountain_forest
.jpg
  inflating: Dataset/Dataset/test_set/forest/1170x500_Ireland_web.jpg

  inflating: Dataset/Dataset/test_set/forest/1200px_Mountainarea.jpg
  inflating: Dataset/Dataset/test_set/forest/146019.jpg
  inflating: Dataset/Dataset/test_set/forest/1506697583544.jpg
  inflating: Dataset/Dataset/test_set/forest/1551622076_img_5241.jpg
  inflating: Dataset/Dataset/test_set/forest/1551903255_2942.jpg
  inflating:
Dataset/Dataset/test_set/forest/1556508284pexels_photo_1179229.jpeg
  inflating:
Dataset/Dataset/test_set/forest/16475617_web1_ForestHealth_VIB_190418_
2.jpg
  inflating:
Dataset/Dataset/test_set/forest/18435324436_6a20e7fc70_k.jpg
  inflating: Dataset/Dataset/test_set/forest/1_chimp.jpg
  inflating:
Dataset/Dataset/test_set/forest/200px_View_of_Lake_Moraine.jpg
  inflating: Dataset/Dataset/test_set/forest/2017_10_12_09_01_56.jpg
  inflating:
Dataset/Dataset/test_set/forest/220px_The_forest_near_Blatets__Vinitsa
.JPG
  inflating:
Dataset/Dataset/test_set/forest/23769_pcbkrdossw_1500310327.jpg
```

```
  inflating:
Dataset/Dataset/test_set/forest/2E215059_55C7_417B_8DDD693AA6E416B4_so
urce.jpg
  inflating:
Dataset/Dataset/test_set/forest/31105585103_4c32392ac1_k.jpg
  inflating: Dataset/Dataset/test_set/forest/381417.jpg
  inflating:
Dataset/Dataset/test_set/forest/4632581118_dcfb9ed978_b.jpg.860x0_q70_
crop_scale.jpg
  inflating:
Dataset/Dataset/test_set/forest/4fe3f4e45d6bb93070989b8bbb77d30e.jpg
  inflating:
Dataset/Dataset/test_set/forest/4k_timelapse_heavy_rain_on_mountain_fo
rest_tree_fog_motion_bad_weather_condition_rfift1zh_thumbnail_.png
  inflating: Dataset/Dataset/test_set/forest/5325.jpg
  inflating: Dataset/Dataset/test_set/forest/5472.jpg
  inflating:
Dataset/Dataset/test_set/forest/5596721015171950769876210711193712n.jpg

  inflating:
Dataset/Dataset/test_set/forest/78closer_exterior_view_of_northern_Roc
ky_Mountain_forest.jpg
  inflating:
Dataset/Dataset/test_set/forest/79806645_landscape_of_tall_grass_field
_green_mountain_forest.jpg
  inflating:
Dataset/Dataset/test_set/forest/7_18_MedicineBowHikingFishing_KL_1319_
4003.jpg
  inflating:
Dataset/Dataset/test_set/forest/7ece9530_9cf1_11e9_bf3c_4fe6e6438142.j
pg
  inflating: Dataset/Dataset/test_set/forest/852554.jpg
  inflating: Dataset/Dataset/test_set/forest/91ErlodmE5L.jpg
  inflating: Dataset/Dataset/test_set/forest/91sALlLjdLL.jpg
  inflating:
Dataset/Dataset/test_set/forest/A003_C014_0724EC.0000000.jpg
  inflating:
Dataset/Dataset/test_set/forest/Adirondack_Habitats_Mixed_Forest_Barnu
m_Brook_Trail_Paul_Smiths_VIC_23_May_2012_61.jpg
  inflating:
Dataset/Dataset/test_set/forest/Adirondack_Habitats_Mixed_Forest_Jenki
ns_Mountain_Trail_Paul_Smiths_VIC_12_August_2013_71.jpg
  inflating: Dataset/Dataset/test_set/forest/Almaty_Mountains.jpg
  inflating: Dataset/Dataset/test_set/forest/DSCN8209(1)_250x333.JPG
  inflating: Dataset/Dataset/test_set/forest/DSC_0072_Forest.jpg
  inflating: Dataset/Dataset/test_set/forest/Deciduous_forest.jpg
  inflating:
Dataset/Dataset/test_set/forest/Dupont_Forest_Triple_Falls_Rob_Travis_
2_1.jpg
  inflating:
```

```
Dataset/Dataset/test_set/forest/Fall_Trees_Alaskan_Adventure_by_John_S
imeone.jpg
  inflating: Dataset/Dataset/test_set/forest/Fallen_e1499694482182.jpg

  inflating:
Dataset/Dataset/test_set/forest/_101542074_gettyimages_956391468.jpg
  inflating: Dataset/Dataset/test_set/forest/a.jpg
  inflating:
Dataset/Dataset/test_set/forest/acadia_np_622419_High_Res.jpg
  inflating:
Dataset/Dataset/test_set/forest/altai_regio_pine_forest_1550x804.jpg
  inflating:
Dataset/Dataset/test_set/forest/amazing_green_trees_in_dense_mountain_
forest_nature_landscape_in_4k_aerial_view_b7oqfwutg_thumbnail_.png
  inflating:
Dataset/Dataset/test_set/forest/aokigaharaforest_1_star.jpg
  inflating:
Dataset/Dataset/test_set/forest/appalachian_mtns_forest_usda_srs.jpg
  inflating:
Dataset/Dataset/test_set/forest/austria_mountain_forest_landscape_wall
paper_1920x1200.jpg
  inflating:
Dataset/Dataset/test_set/forest/bavarian_forest_3385966_1280_1.jpg
  inflating:
Dataset/Dataset/test_set/forest/beautiful_green_forest_range_images_pi
cture_photos_wallpaper_download.jpg
  inflating:
Dataset/Dataset/test_set/forest/beautiful_morning_mountain_forest_scen
ery_free_stock_photos_picjumbo_DSC02176.jpg
  inflating:
Dataset/Dataset/test_set/forest/beautiful_mountain_forest_wallpaper_19
20x1200.jpg
  inflating: Dataset/Dataset/test_set/forest/beech_oak_forest_560.jpg

  inflating:
Dataset/Dataset/test_set/forest/britishforest_696483208.jpg
  inflating:
Dataset/Dataset/test_set/forest/canva_waterfalls_in_the_mountain_fores
t__MADR_l3e0W4.jpg
  inflating:
Dataset/Dataset/test_set/forest/ce8b73d56bd242eb1f2369fe856f1c63_700.j
pg
  inflating:
Dataset/Dataset/test_set/forest/cold_daylight_environment_1423600_640x
427.jpg
  inflating: Dataset/Dataset/test_set/forest/easternArc.jpg
  inflating:
Dataset/Dataset/test_set/forest/em_tiger_mountain_570x284_nc.jpg
  inflating: Dataset/Dataset/test_set/forest/europeslostf.jpg
  inflating:
```

Dataset/Dataset/test_set/forest/fanas_gregorschmucki_2016_28_1_2600x17
33.jpg
  inflating:
Dataset/Dataset/test_set/forest/fantastic_dark_landscape_of_mountain_f
orest_in_clouds_fog_or_mist_picture_id688948674.jpg
  inflating:
Dataset/Dataset/test_set/forest/fb26e4420f3ae3b12788fffdea0fb132_full.
jpg
  inflating:
Dataset/Dataset/test_set/forest/file_20180627_112634_8tdgn4.jpg
  inflating: Dataset/Dataset/test_set/with
fire/180802_CarrFire_010_large_700x467.jpg
  inflating: Dataset/Dataset/test_set/with fire/19464620_401.jpg
  inflating: Dataset/Dataset/test_set/with fire/599857.jpg
  inflating: Dataset/Dataset/test_set/with
fire/Bandipur_fires_2019.jpg
  inflating: Dataset/Dataset/test_set/with fire/FORESTFIRE (1).jpg
  inflating: Dataset/Dataset/test_set/with fire/Fire_2_696x392.jpg
  inflating: Dataset/Dataset/test_set/with fire/Forest_Fire (3).jpg
  inflating: Dataset/Dataset/test_set/with fire/Forest_Fire (4).jpg
  inflating: Dataset/Dataset/test_set/with
fire/Forest_fire_MNRF_esize_IMG_6743.jpg
  inflating: Dataset/Dataset/test_set/with
fire/GettyImages_482867948.0.jpg
  inflating: Dataset/Dataset/test_set/with
fire/GettyImages_862092472_1160x773.jpg
  inflating: Dataset/Dataset/test_set/with
fire/How_to_Protect_Your_Home_From_Forest_Fire_1024x588.jpg
  inflating: Dataset/Dataset/test_set/with fire/RED7_May29_1986.jpg
  inflating: Dataset/Dataset/test_set/with
fire/The_Rim_Fire_in_the_Stanislaus_National_Forest_near_in_California
_began_on_Aug._17__2013_0004.jpg
  inflating: Dataset/Dataset/test_set/with
fire/Untitled_design_161_866x487.jpg
  inflating: Dataset/Dataset/test_set/with
fire/Uttarakhand_forest_fire.jpeg
  inflating: Dataset/Dataset/test_set/with
fire/Washington_DNR_Chiwaukum_WildFires_2014_2015_WA_DNR_cropped.jpg
  inflating: Dataset/Dataset/test_set/with fire/Wild_fires.jpg
  inflating: Dataset/Dataset/test_set/with
fire/X80IR0GYSsG6RaiLcsXX.jpg
  inflating: Dataset/Dataset/test_set/with
fire/b2683a16be44f230a90f50bb944315e994b43042e43df798bb4feaf27e0f8bc8.
jpg
  inflating: Dataset/Dataset/test_set/with
fire/climate_change_forest_fire.jpeg
  inflating: Dataset/Dataset/test_set/with
fire/cumming_forest_fires.jpg
  inflating: Dataset/Dataset/test_set/with
fire/deerfire_high_res_edit.jpg

```
  inflating: Dataset/Dataset/test_set/with fire/defense_large.jpg
  inflating: Dataset/Dataset/test_set/with fire/f90_fire_1168x657.jpg

  inflating: Dataset/Dataset/test_set/with
fire/file_20190308_155532_1nvts27.jpg
  inflating: Dataset/Dataset/test_set/with fire/forest_fire_0.jpg
  inflating: Dataset/Dataset/test_set/with
fire/forest_fire_2268729_1280.jpg
  inflating: Dataset/Dataset/test_set/with
fire/forest_fire_at_bandipur_tiger_reserve_04f0dd5e_3919_11e9_9798_f85
edb62de22.jpg
  inflating: Dataset/Dataset/test_set/with fire/forestfire.jpg
  inflating: Dataset/Dataset/test_set/with
fire/forestfire_kApH__621x414_LiveMint.jpg
  inflating: Dataset/Dataset/test_set/with
fire/growing_risk_future_wildfires_adobestock_199370851.jpeg
  inflating: Dataset/Dataset/test_set/with
fire/header_hypermaritime_fire.jpg
  inflating: Dataset/Dataset/test_set/with fire/horseshoe_bay_fire.jpg

  inflating: Dataset/Dataset/test_set/with fire/image.jpg
  inflating: Dataset/Dataset/test_set/with fire/in_forestfire1_(1).jpg

  inflating: Dataset/Dataset/test_set/with
fire/in_forestfires_shutter.jpg
  inflating: Dataset/Dataset/test_set/with
fire/in_forestfiress_(1).jpg
  inflating: Dataset/Dataset/test_set/with
fire/korea_forest_fire_4.jpg
  inflating: Dataset/Dataset/test_set/with
fire/louisiana_forest_fire.jpg
  inflating: Dataset/Dataset/test_set/with fire/maxresdefault.jpg
  inflating: Dataset/Dataset/test_set/with
fire/photo_1555842027_660d9d8df55b.jpg
  inflating: Dataset/Dataset/test_set/with
fire/ring_of_fire_bailey_colorado_rocky_mountain_forest_wildfire_pictu
re_id157384116.jpg
  inflating: Dataset/Dataset/test_set/with
fire/rsz_1fire_pix_accumulation_640_1_2.jpg
  inflating: Dataset/Dataset/test_set/with
fire/shutterstock_48032821.jpg
  inflating: Dataset/Dataset/test_set/with
fire/shutterstock_710588224.jpg
  inflating: Dataset/Dataset/test_set/with
fire/skynews_ashdown_forest_fire_4653702.jpg
  inflating: Dataset/Dataset/test_set/with
fire/uttarakhand_forest_fire_750x500.jpg
  inflating: Dataset/Dataset/test_set/with
fire/wildfire_header_image_1024x1024.jpg
  inflating: Dataset/Dataset/train_set/forest/with_fire (1).gif
```

```
inflating: Dataset/Dataset/train_set/forest/with_fire (1).jpeg
inflating: Dataset/Dataset/train_set/forest/with_fire (1).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (1).png
inflating: Dataset/Dataset/train_set/forest/with_fire (10).jpeg
inflating: Dataset/Dataset/train_set/forest/with_fire (10).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (100).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (101).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (102).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (103).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (104).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (105).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (106).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (107).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (108).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (109).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (11).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (110).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (111).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (112).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (113).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (114).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (115).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (116).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (117).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (118).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (119).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (12).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (120).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (121).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (122).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (123).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (124).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (125).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (126).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (127).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (128).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (129).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (13).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (130).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (131).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (132).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (133).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (134).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (135).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (136).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (137).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (138).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (139).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (14).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (140).jpg
```

```
inflating: Dataset/Dataset/train_set/forest/with_fire (141).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (142).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (143).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (144).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (145).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (146).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (147).JPG
inflating: Dataset/Dataset/train_set/forest/with_fire (148).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (149).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (15).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (150).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (151).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (152).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (153).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (154).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (155).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (156).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (157).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (158).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (159).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (16).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (160).JPG
inflating: Dataset/Dataset/train_set/forest/with_fire (161).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (162).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (163).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (164).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (165).JPG
inflating: Dataset/Dataset/train_set/forest/with_fire (166).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (167).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (168).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (169).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (17).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (170).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (171).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (172).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (173).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (174).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (175).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (176).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (177).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (178).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (179).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (18).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (180).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (181).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (182).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (183).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (184).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (185).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (186).jpg
```

```
inflating: Dataset/Dataset/train_set/forest/with_fire (187).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (188).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (189).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (19).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (190).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (191).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (192).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (193).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (194).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (195).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (196).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (197).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (198).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (199).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (2).jpeg
inflating: Dataset/Dataset/train_set/forest/with_fire (2).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (2).png
inflating: Dataset/Dataset/train_set/forest/with_fire (20).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (200).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (201).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (202).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (203).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (204).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (205).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (206).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (207).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (208).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (209).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (21).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (210).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (211).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (212).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (213).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (214).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (215).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (216).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (217).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (218).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (219).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (22).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (220).JPG
inflating: Dataset/Dataset/train_set/forest/with_fire (221).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (222).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (223).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (224).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (225).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (226).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (227).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (228).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (229).jpg
```

```
inflating: Dataset/Dataset/train_set/forest/with_fire (23).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (230).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (231).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (232).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (233).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (234).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (235).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (236).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (237).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (238).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (239).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (24).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (240).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (241).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (242).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (243).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (244).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (245).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (246).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (247).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (248).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (249).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (25).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (250).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (251).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (252).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (253).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (254).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (255).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (256).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (257).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (258).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (259).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (26).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (260).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (261).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (27).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (28).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (29).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (3).jpeg
inflating: Dataset/Dataset/train_set/forest/with_fire (3).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (3).png
inflating: Dataset/Dataset/train_set/forest/with_fire (30).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (31).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (32).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (33).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (34).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (35).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (36).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (37).jpg
```

```
inflating: Dataset/Dataset/train_set/forest/with_fire (38).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (39).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (4).jpeg
inflating: Dataset/Dataset/train_set/forest/with_fire (4).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (4).png
inflating: Dataset/Dataset/train_set/forest/with_fire (40).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (41).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (42).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (43).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (44).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (45).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (46).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (47).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (48).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (49).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (5).jpeg
inflating: Dataset/Dataset/train_set/forest/with_fire (5).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (5).png
inflating: Dataset/Dataset/train_set/forest/with_fire (50).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (51).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (52).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (53).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (54).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (55).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (56).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (57).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (58).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (59).bmp
inflating: Dataset/Dataset/train_set/forest/with_fire (59).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (6).jpeg
inflating: Dataset/Dataset/train_set/forest/with_fire (6).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (6).png
inflating: Dataset/Dataset/train_set/forest/with_fire (60).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (61).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (62).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (63).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (64).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (65).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (66).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (67).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (68).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (69).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (7).jpeg
inflating: Dataset/Dataset/train_set/forest/with_fire (7).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (7).png
inflating: Dataset/Dataset/train_set/forest/with_fire (70).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (71).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (72).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (73).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (74).jpg
```

```
inflating: Dataset/Dataset/train_set/forest/with_fire (75).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (76).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (77).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (78).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (79).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (8).jpeg
inflating: Dataset/Dataset/train_set/forest/with_fire (8).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (8).png
inflating: Dataset/Dataset/train_set/forest/with_fire (80).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (81).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (82).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (83).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (84).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (85).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (86).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (87).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (88).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (89).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (9).jpeg
inflating: Dataset/Dataset/train_set/forest/with_fire (9).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (9).png
inflating: Dataset/Dataset/train_set/forest/with_fire (90).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (91).JPG
inflating: Dataset/Dataset/train_set/forest/with_fire (92).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (93).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (94).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (95).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (96).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (97).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (98).jpg
inflating: Dataset/Dataset/train_set/forest/with_fire (99).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (1).png
inflating: Dataset/Dataset/train_set/with fire/with fire (10).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (100).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (101).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (102).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (103).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (104).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (105).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (106).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (107).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (108).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (109).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (11).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (110).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (111).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (112).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (113).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (114).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (115).jpg
```

```
inflating: Dataset/Dataset/train_set/with fire/with fire (116).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (117).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (118).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (119).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (12).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (120).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (121).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (122).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (123).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (124).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (125).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (126).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (127).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (128).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (129).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (13).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (130).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (131).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (132).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (133).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (134).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (135).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (136).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (137).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (138).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (139).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (14).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (140).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (141).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (142).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (143).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (144).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (145).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (146).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (147).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (148).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (149).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (15).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (16).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (17).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (18).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (19).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (2).jpeg
inflating: Dataset/Dataset/train_set/with fire/with fire (2).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (2).png
inflating: Dataset/Dataset/train_set/with fire/with fire (20).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (21).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (22).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (23).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (24).jpg
```

```
inflating: Dataset/Dataset/train_set/with fire/with fire (25).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (26).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (27).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (28).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (29).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (3).jpeg
inflating: Dataset/Dataset/train_set/with fire/with fire (3).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (3).png
inflating: Dataset/Dataset/train_set/with fire/with fire (30).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (31).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (32).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (33).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (34).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (35).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (36).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (37).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (38).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (39).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (4).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (4).png
inflating: Dataset/Dataset/train_set/with fire/with fire (40).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (41).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (42).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (43).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (44).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (45).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (46).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (47).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (48).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (49).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (5).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (50).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (51).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (52).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (53).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (54).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (55).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (56).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (57).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (58).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (59).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (6).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (60).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (61).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (62).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (63).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (64).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (65).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (66).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (67).jpg
```

```
inflating: Dataset/Dataset/train_set/with fire/with fire (68).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (69).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (7).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (70).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (71).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (72).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (73).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (74).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (75).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (76).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (77).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (78).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (79).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (8).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (80).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (81).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (82).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (83).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (84).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (85).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (86).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (87).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (88).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (89).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (9).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (90).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (91).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (92).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (93).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (94).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (95).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (96).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (97).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (98).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire (99).jpg
inflating: Dataset/Dataset/train_set/with fire/with fire.jpeg
inflating: forest1.h5
```

```python
#importing the necessory libraries

from tensorflow.keras.preprocessing.image import ImageDataGenerator

#define the parameters/arguments for imagedatagenarator class
train_datagen=ImageDataGenerator(rescale=1./255,
                                 shear_range=0.2,
                                 rotation_range=180,
                                 zoom_range=0.2,
                                 horizontal_flip=True)


test_datagen=ImageDataGenerator(rescale=1./255)
```

```python
#applying imagedatagenerator functionality to trainset
x_train=train_datagen.flow_from_directory('/content/Dataset/Dataset/
train_set',
                                          target_size=(128,128),
                                          batch_size=32,
                                          class_mode='binary')
```

Found 436 images belonging to 2 classes.

```python
#applying imagedatagenerator functionality to testset
x_test=test_datagen.flow_from_directory('/content/Dataset/Dataset/
test_set',
                                        target_size=(128,128),
                                        batch_size=32,
                                        class_mode='binary')
```

Found 121 images belonging to 2 classes.

```python
#Importing the model libraries

from tensorflow.keras.models import Sequential
from tensorflow.keras.layers import Convolution2D, MaxPooling2D,
Flatten, Dense

#initializing the model
model=Sequential()

#adding CNN layers
model.add(Convolution2D(32,
(3,3),input_shape=(128,128,3),activation='relu'))     # convolution
layer
model.add(MaxPooling2D(pool_size=(2,2)))
#maxpool layer
model.add(Flatten())
#flatten layer

#adding dense layers
model.add(Dense(150,activation='relu'))
#hidden layer
model.add(Dense(150,activation='relu'))
#hidden layer

model.add(Dense(1,activation="sigmoid"))
#output layer


#configuring the learning process
model.compile(loss='binary_crossentropy',optimizer='adam',
              metrics=['accuracy'])
```

```python
#training the model
model.fit_generator(x_train,
                    steps_per_epoch=14,
                    epochs=10,
                    validation_data=x_test,
                    validation_steps=4)
```

/usr/local/lib/python3.7/dist-packages/ipykernel_launcher.py:6:
UserWarning: `Model.fit_generator` is deprecated and will be removed
in a future version. Please use `Model.fit`, which supports
generators.

Epoch 1/10
14/14 [==============================] - 27s 2s/step - loss: 1.7052 -
accuracy: 0.6055 - val_loss: 0.3188 - val_accuracy: 0.8512
Epoch 2/10
14/14 [==============================] - 25s 2s/step - loss: 0.3500 -
accuracy: 0.8417 - val_loss: 0.1166 - val_accuracy: 0.9504
Epoch 3/10
14/14 [==============================] - 25s 2s/step - loss: 0.1948 -
accuracy: 0.9106 - val_loss: 0.1255 - val_accuracy: 0.9669
Epoch 4/10
14/14 [==============================] - 25s 2s/step - loss: 0.1806 -
accuracy: 0.9106 - val_loss: 0.0860 - val_accuracy: 0.9752
Epoch 5/10
14/14 [==============================] - 25s 2s/step - loss: 0.1612 -
accuracy: 0.9289 - val_loss: 0.1147 - val_accuracy: 0.9669
Epoch 6/10
14/14 [==============================] - 25s 2s/step - loss: 0.1650 -
accuracy: 0.9381 - val_loss: 0.0723 - val_accuracy: 0.9752
Epoch 7/10
14/14 [==============================] - 25s 2s/step - loss: 0.1489 -
accuracy: 0.9472 - val_loss: 0.0692 - val_accuracy: 0.9504
Epoch 8/10
14/14 [==============================] - 25s 2s/step - loss: 0.1458 -
accuracy: 0.9381 - val_loss: 0.0671 - val_accuracy: 0.9835
Epoch 9/10
14/14 [==============================] - 25s 2s/step - loss: 0.2015 -
accuracy: 0.9106 - val_loss: 0.0563 - val_accuracy: 0.9752
Epoch 10/10
14/14 [==============================] - 25s 2s/step - loss: 0.1710 -
accuracy: 0.9266 - val_loss: 0.0585 - val_accuracy: 0.9835

<keras.callbacks.History at 0x7fc0f7f46550>

```python
#saving the model
model.save("forest2.h5")
```

```python
#predicting
from keras.models import load_model
from tensorflow.keras.preprocessing import image
import numpy as np

img=image.load_img('/content/forest fire
(1).jpg',target_size=(128,128))          #prediction-1
x = image.img_to_array(img)
x = np.expand_dims(x,axis=0)
result=model.predict(x)
if result[0][0]==1:
  prediction='forest with fire'
  print(prediction)
else:
  prediction='forest without fire'
  print(prediction)
```

```
1/1 [==============================] - 0s 36ms/step
forest with fire
```

```python
img=image.load_img('/content/Dataset/Dataset/test_set/forest/
091318_LH_forest_loss_main_FREE.jpg',target_size=(128,128))
#prediction-2
x = image.img_to_array(img)
x = np.expand_dims(x,axis=0)
result=model.predict(x)
if result[0][0]==1:
  prediction='forest with fire'
  print(prediction)
else:
  prediction='forest without fire'
  print(prediction)
```

```
1/1 [==============================] - 0s 37ms/step
forest without fire
```

```python
img=image.load_img('/content/Dataset/Dataset/test_set/with
fire/How_to_Protect_Your_Home_From_Forest_Fire_1024x588.jpg',target_si
ze=(128,128))  #prediction-3
x = image.img_to_array(img)
x = np.expand_dims(x,axis=0)
result=model.predict(x)
if result[0][0]==1:
  prediction='forest with fire'
  print(prediction)
else:
  prediction='forest without fire'
  print(prediction)
```

```
1/1 [==============================] - 0s 50ms/step
forest with fire
```

```
x_train.class_indices
```

```
{'forest': 0, 'with fire': 1}
```