



# FOREST FIRE DETECTION



ECHIPA PISICILE MAI SALBATICE

Bumbu Paul  
Craciun Flaviu  
Custura Octavian  
Vilceanu Ovidiu

# MOTIVATIA

- Incendiile de vegetatie apar din ce in ce mai des in lumea noastra
- Pericol MAJOR pentru flora si fauna locala
- Creste numarul de specii pe cale de disparitie





# DATASET



Sursa: Kaggle

<https://www.kaggle.com/datasets/phylake/1337/fire-dataset>

A fost creat pentru NASA Space Apps Challenge 2018

Imaginile sunt impartite in doua categorii:

- Fire 🖱️
- Not fire ✨

# PROCESAREA SETULUI DE DATE


Numar relativ mic de date -> procesare manuala


Calculam Confusion Matrix  
Analizam diferite metrice


- Precision
- Recall
- F1 score


**fire\_images** (755 files) 🗨 >


**About this directory**  
contains 755 outdoor-fire images some of them contain heavy smoke.


  
fire.1.png  
125.49 kB


  
fire.10.png  
87.48 kB


  
fire.100.png  
43.06 kB

  
fire.101.png  
20.64 kB

  
fire.102.png  
21.77 kB

  
fire.103.png  
364.51 kB

  
fire.104.png  
24.52 kB

  
fire.105.png  
329.38 kB

**Data Explorer**  
Version 1 (408.78 MB)

- 📁 fire\_dataset
  - 📁 fire\_images
  - 📁 non\_fire\_images

**Summary**

- 📁 999 files

# MODELE



First Try

OverFit

20

Second Try

UnderFit

5

Final Try

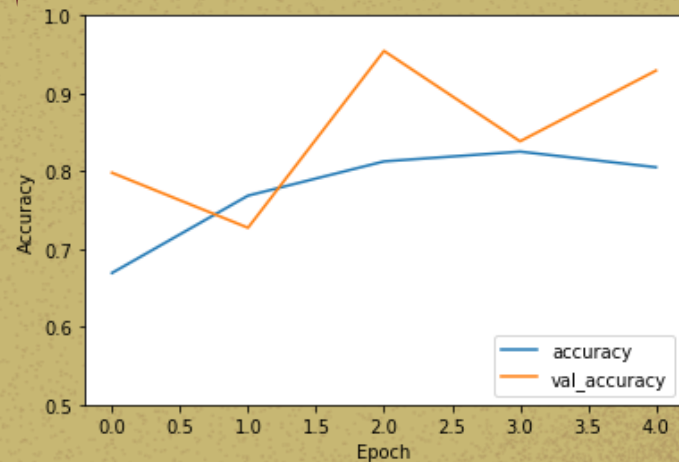
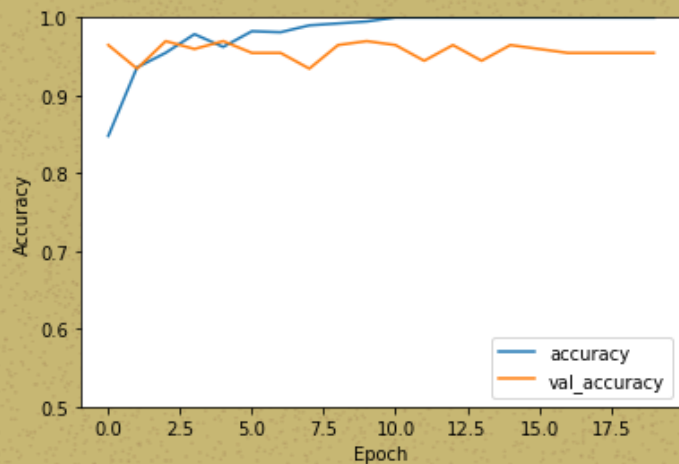
Great <3

14

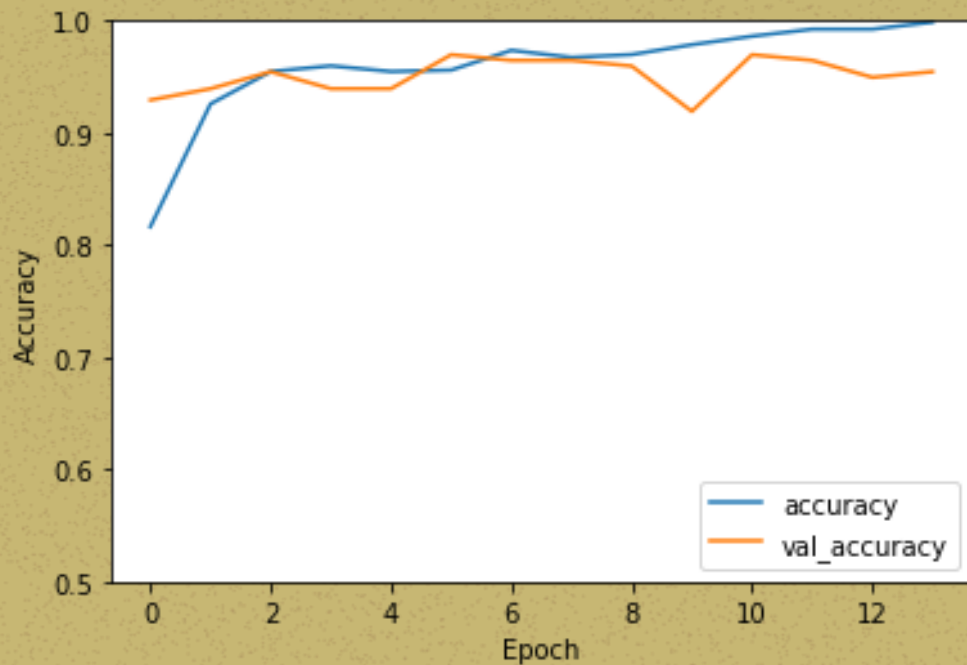




# REZULTATE

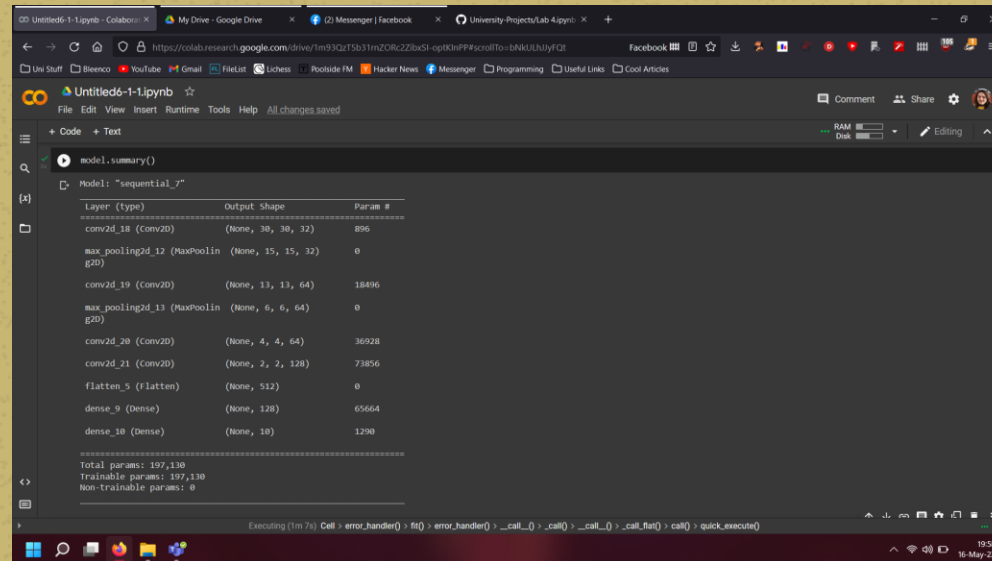


# REZULTATE (2)



# ALGORITM

Avand de aface cu imagini din care trebuie sa extragem informatii, o retea neuronală cu convolutii ar fi una dintre cele mai bune abordari.



The screenshot shows a Jupyter Notebook interface with a browser window open to a Google Colab environment. The notebook is titled "Untitled6-1-lipynb". The code cell contains the command `model.summary()`, which has been executed. The output displays the summary of a sequential model named "sequential\_7".



Layer (type)	Output Shape	Param #
conv2d_18 (Conv2D)	(None, 30, 30, 32)	896
max_pooling2d_12 (MaxPoolin g2D)	(None, 15, 15, 32)	0
conv2d_19 (Conv2D)	(None, 13, 13, 64)	18496
max_pooling2d_13 (MaxPoolin g2D)	(None, 6, 6, 64)	0
conv2d_20 (Conv2D)	(None, 4, 4, 64)	36928
conv2d_21 (Conv2D)	(None, 2, 2, 128)	73856
flatten_5 (Flatten)	(None, 512)	0
dense_9 (Dense)	(None, 128)	65664
dense_10 (Dense)	(None, 10)	1290

Summary statistics:

- Total params: 197,130
- Trainable params: 197,130
- Non-trainable params: 0

The bottom status bar indicates the notebook is "Executing (1m 7s)" and shows the current cell's execution progress.





**Suntem aici pentru o lume in care cangurii  
pot trai in temperatura lor preferata!**

