Mind Color

Progetto finale del corso «Machine Learning Advanced Models»

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Data: 17.01.2024

Dataset

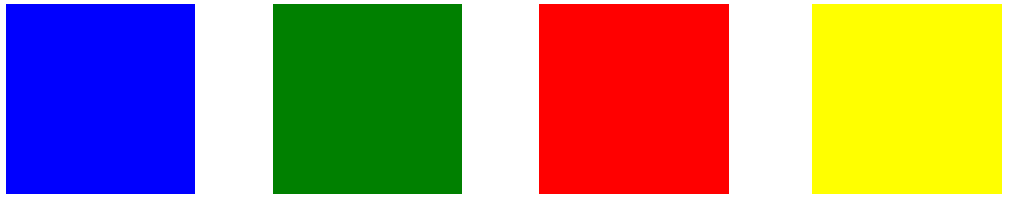
01. Onde Cerebrali

- Array di float
- Len = 5
- Circa 60000 record

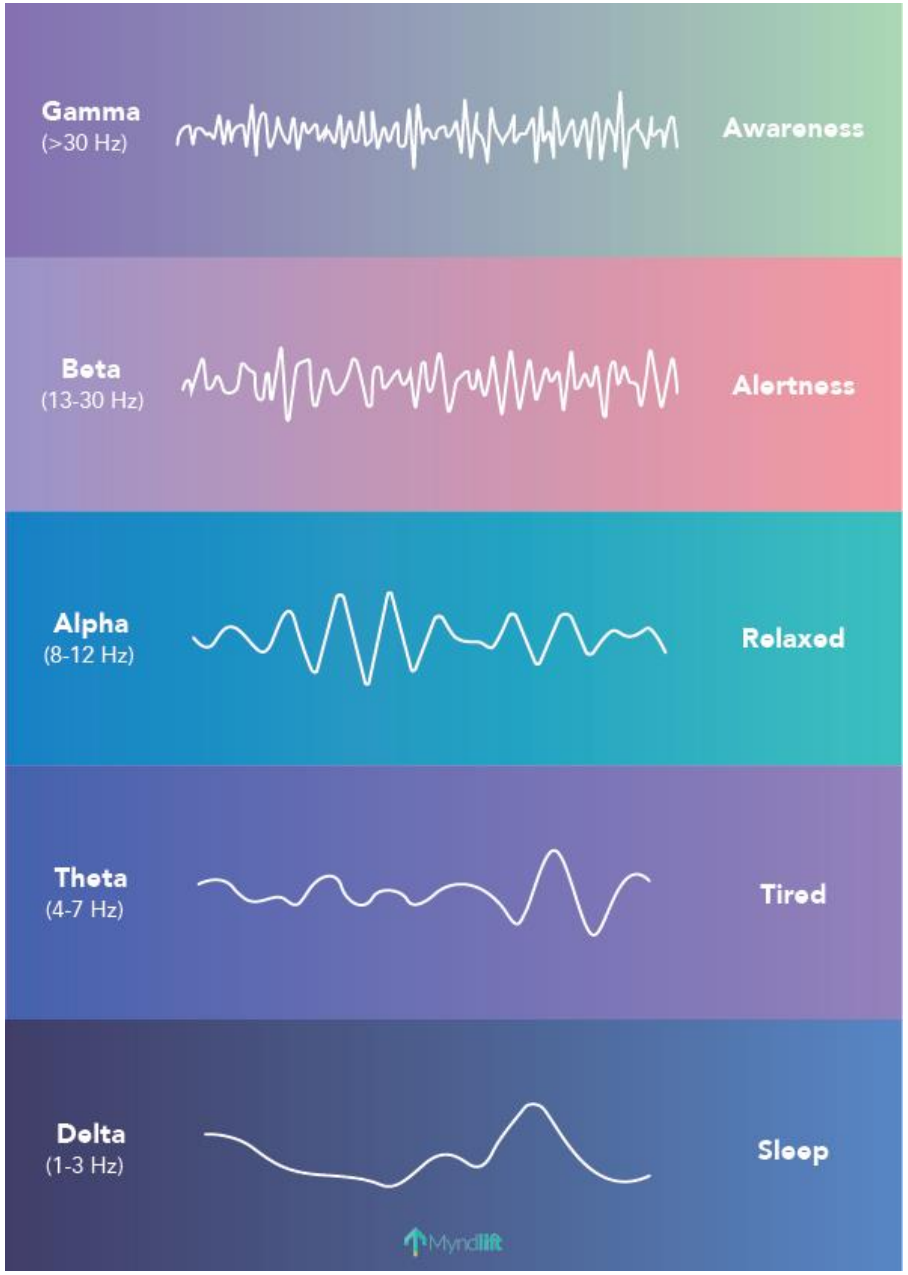
02. Immagini

- Immagini monocromatiche
- Rosso, Blu, Verde, Giallo
- 1000x1000x3 -> 28x28x3

tf.Tensor([100.0346 101.6888 92.8102 100.4404 84.802],
shape=(5,), **dtype**=float64)



Onde Cerebrali



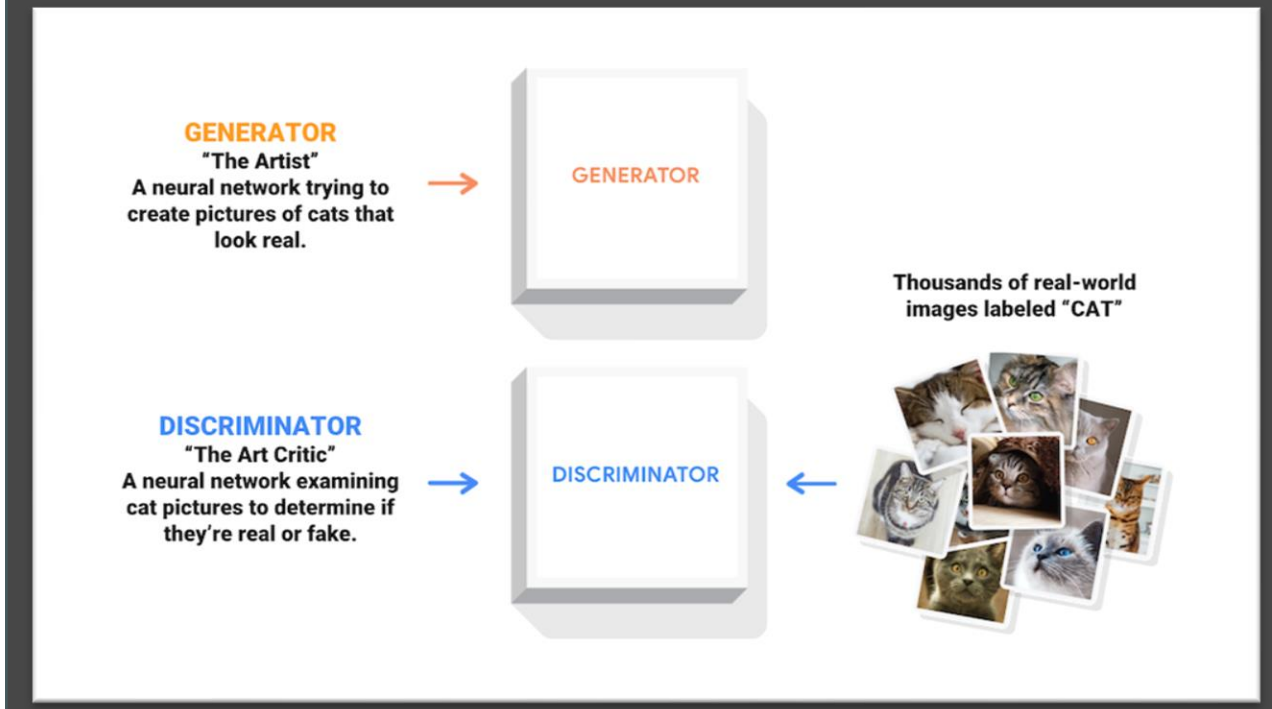
Modello GAN

Generatore

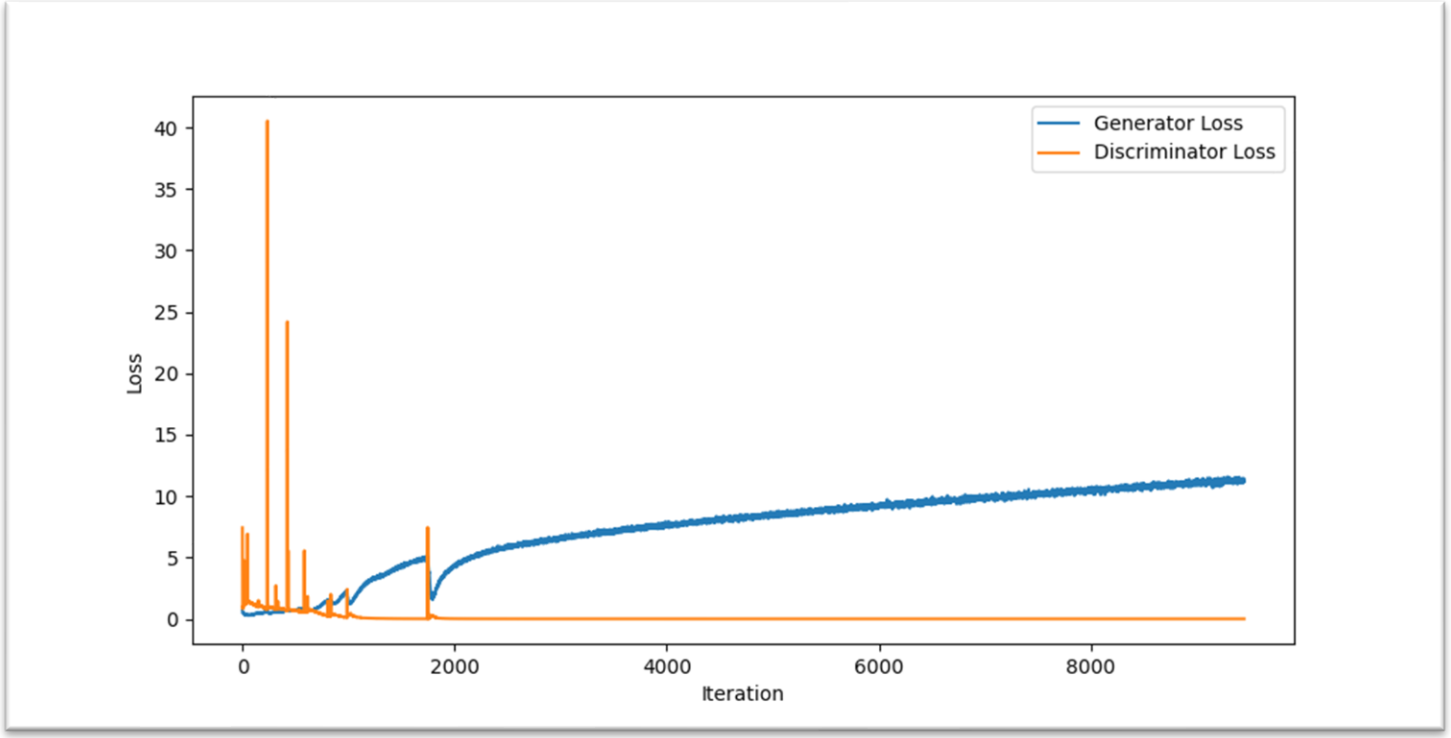
- Input: array di onde cerebrali invece che il classico rumore gaussiano
- Output: immagine ricostruita
- Loss: CrossEntropy

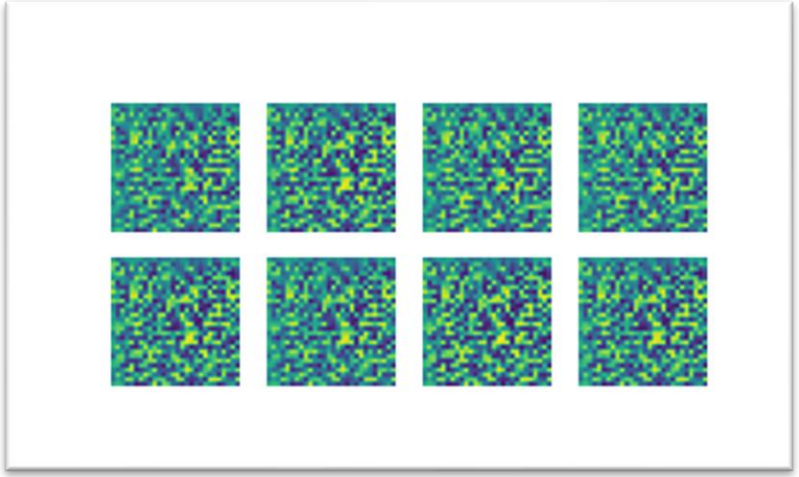
Discriminatore

- Input: immagine 28x28x3
- Output: «giudizio» negativo o positivo
- Loss: CrossEntropy



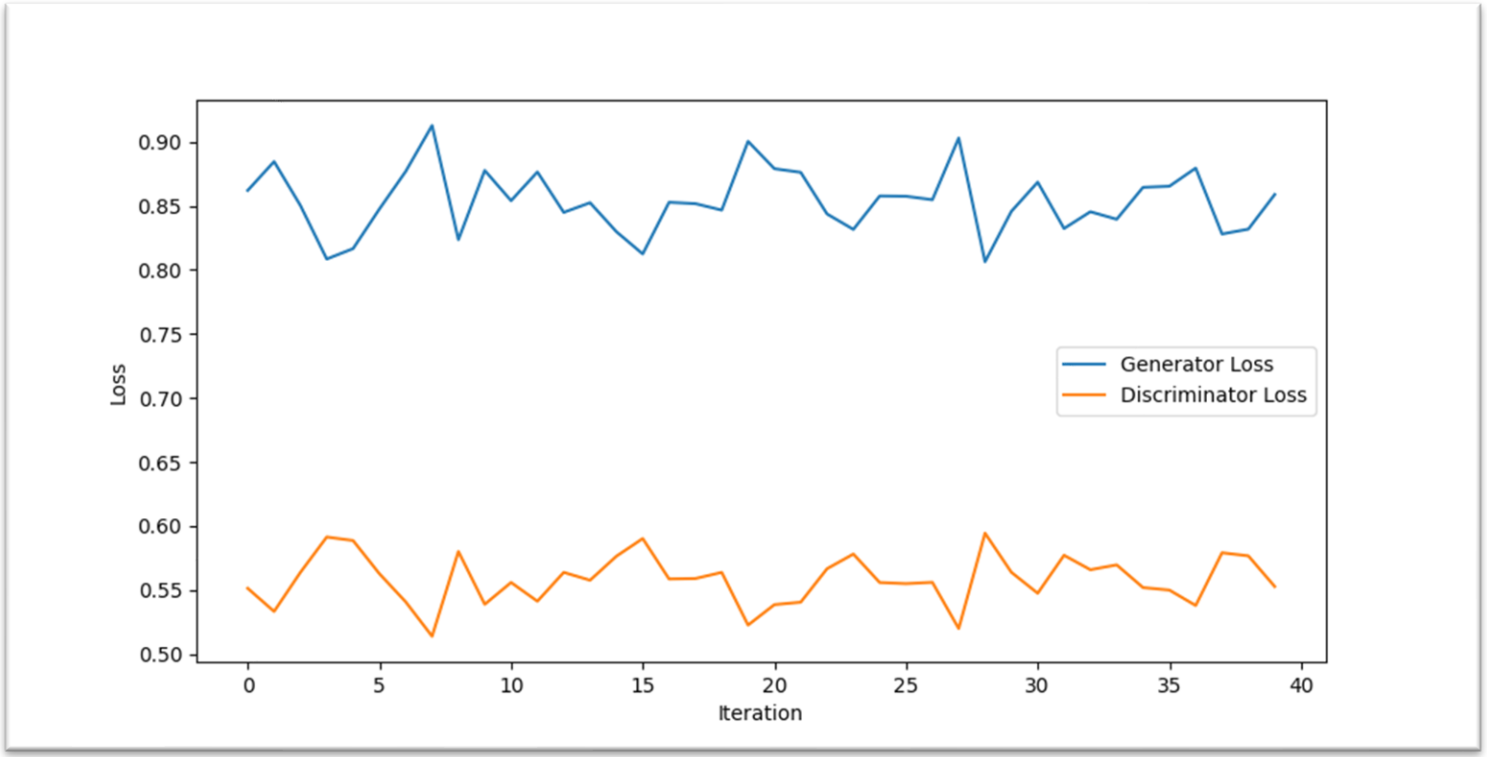
Risultati Training

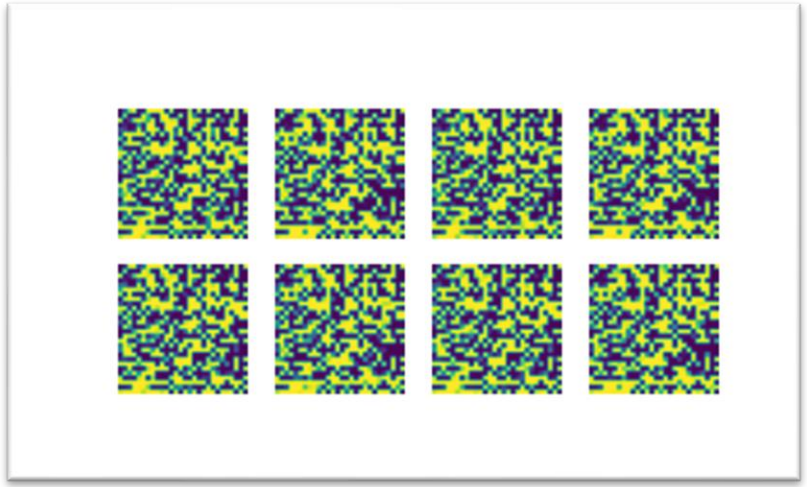




Epoche = 50
Batch_size = 8

Risultati Test





Epoche = 10
Batch_size = 8

Conclusioni

Sensore più sofisticato

Più Dati

Scaling dei dati di input (onde)