

DEEP LEARNING AND ITS APPLICATIONS HACKATHON PRESENTATION ON VIDEO COLORIZATION GROUP-ZINGALALA

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Problem Statement

Given black and white video, we are trying to output a color video by relating a frame with its preceding frames.

Main Idea

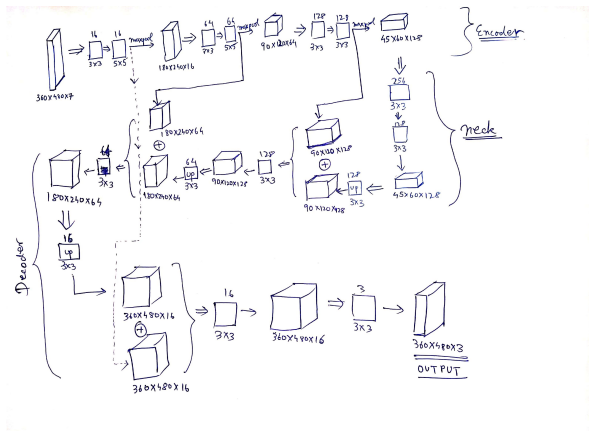
- If we apply the network directly on black and white images, it could not relate to the video frames.
videos, the frames are related to the previous frames, the direct approach would not detect that relation.
- We are trying to keep that relation between the frames so that we will get better results.

Datasets

- Tom and Jerry videos from YouTube

Basic Model

- We Tested out with 4 different types of models
- In First Model was given a give a 7 channel input to a auto-encoder and output as a colored output of 7Th channel.



Basic Model Output

Second Model

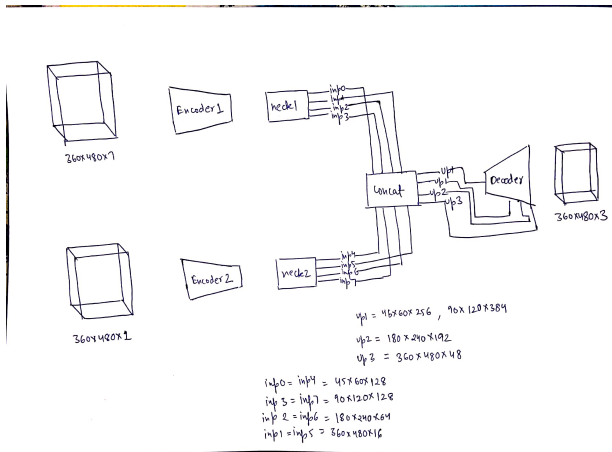
- In Second Model we tried to run it on a the same model with different training data. It consists of 7percent data where previous two frames are not consecutive frame of the of the 3rd black-white frame, also it contains 7percent data where two of input frame contains black images
- Used green everywhere instead.

Second Model Output

Third Model

- In Third Model we tried to implement two models.
- First model converts 1 channel b/w image to 3 channel color image.
- Second model converts 7 channel inputs to 3 channel colored output.
- In the end, second model gives feedback to first model.

Third Model Diagram

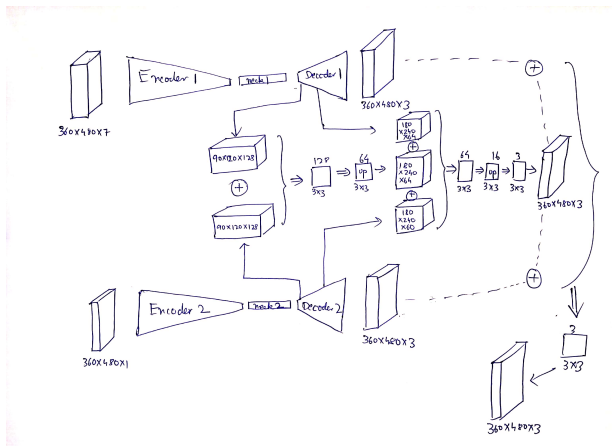


Third Model Output

Final Model

- Same as Third model except
- Feedback is taken at many stages.

Final Model Diagram



Final Model Output