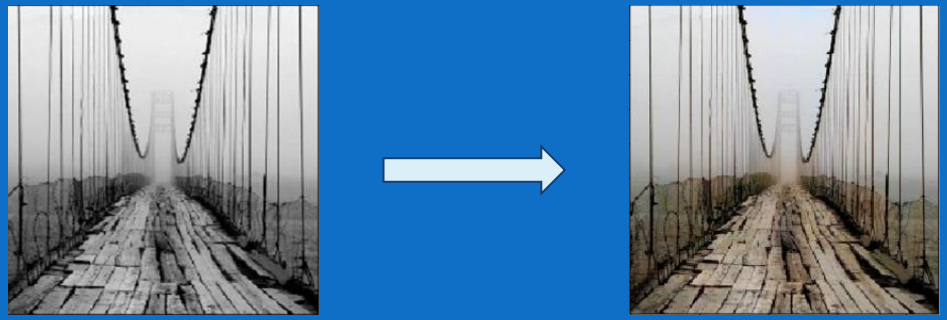
Colorizing Grayscale Images



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Our Project's Aim

Description:

Our project aims to reclaim the original colors of an image from grayscale. We want to create a machine learning model that functions as a tool for converting black and white images to color automatically. We will build and analyze several models for this purpose.

Motivation:

1. Black and white photos and movies.
   Subreddit: /r/colorization
2. Storage of grayscale images and their use in image processing.
3. MRI scans, satellite imagery, CCTV cameras, astronomical photography, or electron microscopy.

Approach

Data:

Berkeley Segmentation Dataset

ImageNet

Computational Visual Cognition Laboratory

Initial Thoughts:

- Our plan is to create an initial baseline and then an advanced model.
- Algorithms we will experiment with are K-means clustering, Regression, SVM and CNN
- Compare results by testing accuracy
  - Number of accurate predicted pixels/number of actual pixels