PUCIT
Punjab University College of Information Technology

Computer Vision

Project Proposal: Autoencoder-based Image Colorization

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Project Proposal: Autoencoder-based Image Colorization

Objective:

Implement an Autoencoder model to colorize grayscale images, enabling applications like colorizing old images.

Scope:

The project aims to explore the capabilities of Autoencoders in transforming grayscale images to their color counterparts. The application scope extends to revitalizing old black-and-white images by adding color information.

Description:

The proposed project involves developing a robust Autoencoder architecture capable of learning meaningful color representations from grayscale images. The model will be trained on a diverse dataset containing grayscale images paired with their corresponding color versions. The learned representation will then be applied to grayscale images, effectively colorizing them.

Libraries and Tools:

- Libraries: TensorFlow, PyTorch, OpenCV
- Tools: Jupyter Notebooks, IDEs (e.g., VSCode, PyCharm)
- Github: for collaboration

Timeline:

Weeks 1:

- Data Collection and Preprocessing
- Autoencoder Design and Training

Weeks 2:

- Model Evaluation and Optimization
- Testing and Integration

Conclusion:

In summary, this project holds the promise of showcasing the effectiveness of Autoencoders in image colorization. This project goes beyond the classroom, making it a great addition to our portfolio. Completing it will boost my technical skills, demonstrate our use of deep learning in real-world scenarios, and make our resume stand out for future job opportunities.