

PUCIT

Punjab University College of Information Technology

MentorHub

**Computer Vision**

Project Proposal: Autoencoder-based Image Colorization

***Supervised By:***

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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.