PicassoVision – AI-Powered Art Style Transfer

Submitted by:

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Project Mentor:

Mr. Shiv Kumar Verma

About the Project:

Art and artificial intelligence have come together through Neural Style Transfer (NST), a deep learning technique that transforms images into artistic masterpieces. PicassoVision is an AI-powered image transformation tool that applies the unique styles of famous painters such as Van Gogh, Picasso, and Monet to any input image. Using a pre-trained Convolutional Neural Network (CNN), specifically VGG19, this project extracts the artistic patterns from one image and applies them to another while preserving the content.

The final output is a fully functional web application (Flask/Streamlit) that allows users to upload images and apply different art styles dynamically.

Motivation:

The motivation behind PicassoVision is to bridge the gap between art and artificial intelligence, making artistic creativity accessible to everyone through deep learning. By leveraging Neural Style Transfer (NST) and Convolutional Neural Networks (CNNs), this project transforms ordinary images into stunning artworks inspired by legendary painters like Van Gogh and Picasso. It not only explores the power of AI in artistic expression but also serves as a hands-on opportunity to apply machine learning in a real-world interactive web application, empowering users—artists, photographers, and designers—to create digital masterpieces effortlessly

Features

Upload any image and apply artistic transformations.

- **Choose from multiple famous styles** (Picasso, Van Gogh, Monet, etc.).
- **Download the transformed image** after processing.
- **Fast and optimized NST model** for real-time processing.
- **User-friendly UI** built with Flask/Streamlit.
- **Cloud deployment** for remote access.

Project Planning:

Content launch tracker

Type	Description	Date	Published	Outlet	Content
Blog Post	AI in Art	29 Ma…	No	Medium	File
Research Paper	Neural Style Transfer	31 Ma…	No	Medium	File
Video	PicassoVision Demo	6 Apr …	No	LinkedIn	File
Article	AI & Creativity	2 Apr …	No	LinkedIn	File

Tools and Technologies Used:

Deep Learning & Model Development

- TensorFlow 2.x / Keras – For implementing Neural Style Transfer (NST).
- VGG19 (Pre-trained Model) – Used for extracting content & style features.
- NumPy & Matplotlib – For handling image processing & visualization.
- OpenCV & PIL (Pillow) – For loading and preprocessing images.

Web Application Development

- **Flask** – Backend framework for building the web app.
- **Streamlit** – Alternative for a simple interactive UI.
- **HTML, CSS (Bootstrap)** – For frontend UI design.

Deployment & Hosting

- **Google Colab** – For model training (GPU-accelerated).
- **Render / Heroku** – For Flask-based deployment.
- **Streamlit Cloud** – If using Streamlit for easy deployment.

Version Control & Documentation

- **Git & GitHub –** Code versioning & project collaboration.
- **Markdown / Jupyter Notebook –** For documentation & reports.

Signature of Project Mentor: _____

Additional Information:

Colab Notebook:

https://colab.research.google.com/drive/1y9DQBQ1hHMl51OWaBFywbG4NxdMmrJDS

GitHub Project Repository:

https://github.com/AnshSharma16/PicassoVision/blob/main/SKETCH.ipynb