

# Project 1 - Design and implementation a recommendation system Web Mining and Social Networking Course

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#### **Project**

1 Design and implementation a recommendation system

#### Method and Tools

- 1. Download the WikiArt dataset and apply pre-process on it:
  - WikiArt Dataset page: https://data.mendeley.com/datasets/289kxpnp57/1
  - Resize the images to 224x224
  - Convert images to matrix

## 2. Prepare pre-trained MobileNet model for extract features:

- Using imagenet weights
- Delete last layers of the model (output classification layers)
- Predict features of each image
- Create the similarity matrix using cosine similarity formula

#### 3. Recommendation:

- Getting a image from users recommend top 6 images to them (suppose that a user like or select a image in search results or feed section our in social network)

#### Why MobileNet architecture?

MobileNet is a Efficient Convolutional Neural Networks for Mobile Vision Applications it's a light weight deep neural networks, and i want to do recommendation in a webapp, so speed of predict time is important for me. Although it is a light model, its predictions have good results.

#### **Tools:**

- Programming Languages: Python
- Libraries: Tensorflow, Scikit-Learn, Numpy, Pandas, tqdm, Steamlit

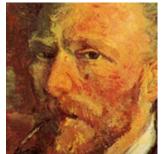
#### Implementation:

- Web App link: https://share.streamlit.io/mehrdad-dev/portrait-painting-recommendation/main/app.py
- GitHub Repo: https://github.com/mehrdad-dev/Portrait-Painting-Recommendation

#### Sample Images:









### Some Good Results:

Your selected imag



Recomendation Results:





Your selected imag



Recomendation Results





Your selected imag



Recomendation Results





our selected imag



Recomendation Results



