

Supplementary Material:

Ceci n'est pas une pipe:

A Deep Convolutional Network for Fine-art Paintings Classification

This supplementary material presents additional information to support our work. Table I lists the members of each classification task. Examples of styles and genres are shown in Figure 1 and Figure 2, respectively. These examples give hint to the readers that how a style or genre should look like. It is noted that some of the styles or genres look very similar. For instance, in Cubism, Analytical Cubism, and Synthetic Cubism, objects are analyzed, broken up, and reassembled in an abstracted form. Another example would be Mannerism-Late-Renaissance, Early Renaissance, High Renaissance, and Northern Renaissance, where the paintings are drawn during the Renaissance period in Europe, from the 14th to 17th century. This explains why CNN confuses a lot of styles and attains low accuracy in *style* classification. Meanwhile, in *genre* classification, CNN confuses Cityscape with Landscape because Cityscape is the urban equivalent of Landscape. Last but not least, visualizations of neurons' responses for layer 1 to 5 are presented in Figure 3.

Task	List of Members		
Style	(1)Abstract Expressionism (4)Art Nouveau-Modern Art (7)Contemporary Realism (10)Expressionism (13)Impressionism (16)Primitivism-Naive Art (19)Pointillism (22)Realism (25)Symbolism	(2)Action Painting (5)Baroque (8)Cubism (11)Fauvism (14)Mannerism-Late-Renaissance (17)New Realism (20)Pop Art (23)Rococo (26)Synthetic Cubism	(3)Analytical Cubism (6)Colour Field Painting (9)Early Renaissance (12)High Renaissance (15)Minimalism (18)Northern Renaissance (21)Post Impressionism (24)Romanticism (27)Ukiyo-e
Genre	(1)Abstract Painting (4)Illustration (7)Portrait (10)Still Life	(2)Cityscape (5)Landscape (8)Religious Painting	(3)Genre Painting (6)Nude Painting (9)Sketch and Study
Artist	(1)Albrecht Durer (4)Childe Hassam (7)Eugene Boudin (10)Ivan Aivazovsky (13)Marc Chagall (16)Pablo Picasso (19)Pyotr Konchalovsky (22)Salvador Dali	(2)Boris Kustodiev (5)Claude Monet (8)Gustave Dore (11)Ivan Shishkin (14)Martiros Saryan (17)Paul Cezanne (20)Raphael Kirchner (23)Vincent van Gogh	(3)Camille Pissarro (6)Edgar Degas (9)Ilya Repin (12)John Singer Sargent (15)Nicholas Roerich (18)Pierre-Auguste Renoir (21)Rembrandt

TABLE I: List of Styles, Genres, and Artists

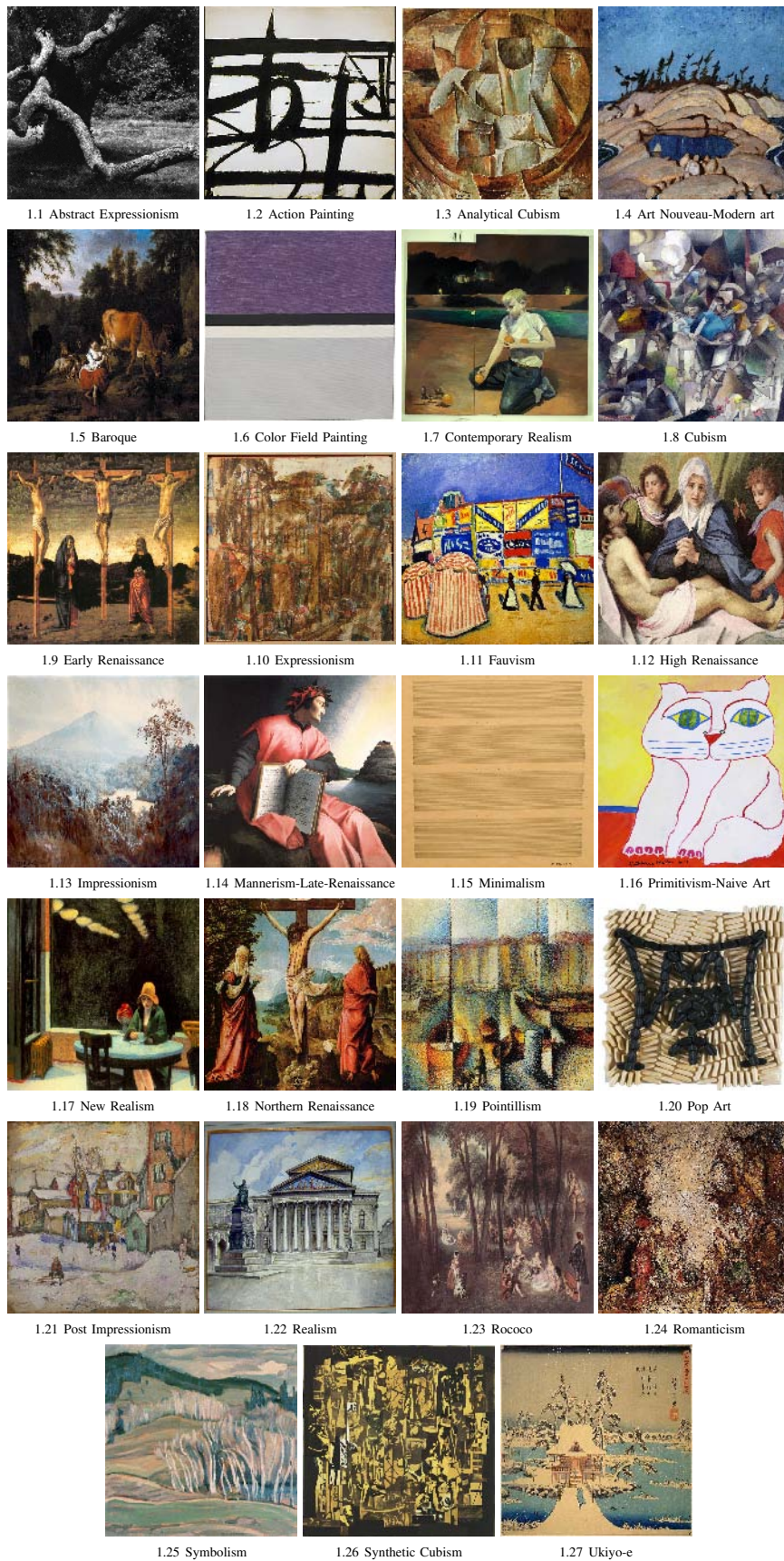


Fig. 1: Examples of Paintings according to their *style*



2.1 Abstract Painting



2.2 Cityscape



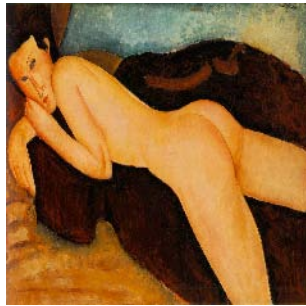
2.3 Genre Painting



2.4 Illustration



2.5 Landscape



2.6 Nude Painting



2.7 Portrait



2.8 Religious Painting



2.9 Sketch and Study



2.10 Still Life

Fig. 2: Examples of Paintings according to their *genre*

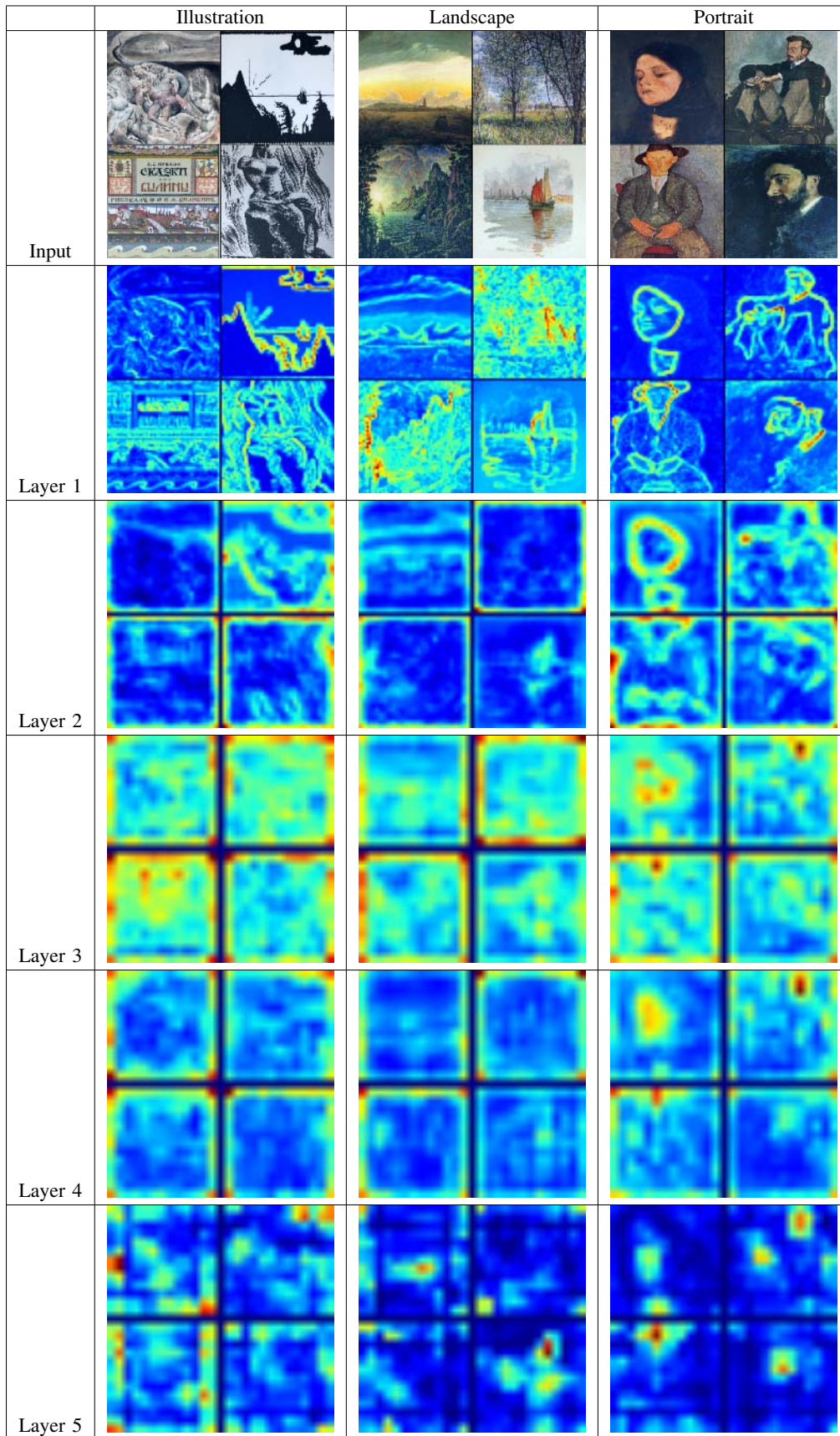


Fig. 3: The complete visualization (conv1-5) of neurons' responses in the *genre* classification.