

# DISTINGUISHING FEATURE EXTRACTION CHALLENGE

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## Introduction

In the first year (1886) of Vincent's years in Paris he discovered the work of Adolphe Monticelli (1824-1886) and began to paint floral still lifes that reflected Monticelli's impasto brushwork. Subsequently, there are features art historians identify as shared in the brushwork and color schemes of their floral still lifes that are absent in the works of their contemporaries. There are also features shared by van Gogh's floral still lifes that are absent in Monticelli's, and vice versa, and serve as features distinguishing the work of van Gogh and Monticelli despite their strong similarities. One particular distinction is that Monticelli's brushwork is less orderly than van Gogh's with more overlapping small strokes.

This document introduces a small set of floral still lifes by Monticelli, van Gogh, and contemporaries that are to be used in attempting to deduce features discernible by image processing algorithms that

- **A** • distinguish Monticelli and van Gogh floral still lifes as a group from the floral still lifes of contemporaries
- **B** • are shared by van Gogh's still lifes but not by Monticelli's
- **C** • are shared by Monticelli's still lifes but not by van Gogh's

## French Floral Still Lifes from the Late 19th Century

The paintings available for this feature extraction challenge are four floral still lifes by van Gogh

- F218 :: "Glass with Roses", 35 x 27 cm (H x W), summer 1886

- F234 :: “Still Life: One-Eared Vase with Asters and Phlox”, 61.1 x 46.1 cm :: August 1886 - mid September 1886
- F248a :: “Still Life: Vase with Gladioli”, 46.5 x 38.3-38.4 cm, August 1886 - mid September 1886
- F249 :: “Roses and Peonies”, 59.8 x 72.5 cm, June 1886

of which one (F249) is in the collection of the Kröller-Müller Museum and the others are in the collection of the Van Gogh Museum, four floral still lifes by Monticelli

- Van Gogh Museum S251 :: “Vase with Flowers”, 51 x 39 cm, about 1875
- Kröller-Müller Museum KM 110.535 :: “Flower Still Life”, 52.5 x 33.5 cm, about 1875
- Metropolitan Museum of Art 56.183 :: “Flowers in a Blue Vase”, 67.3 x 48.9 cm, 1879-1883
- Centraal Museum Utrecht 21834 :: “Bouquet of Flowers”, 57.5 x 38.5 cm, 1875

and five by contemporaries

- S219 :: I. H. Fantin-Latour, “Vase with Flowers”, 54 x 60.5 cm, 1877
- S234 :: G. Jeannin, “Vase with Flowers”, 37 x 20 cm, before 1890
- S235 :: G. Jeannin, “Vase with Flowers”, 70 x 46 cm, before 1890
- S286 :: L. Van Rijssel, “Vase with Roses”, 35 x 27 cm, 1907
- S502 :: C. Pissarro, “Still Life with Peonies and Mock Orange”, 81 x 64.5 cm, 1872-74 and 1876-77

all from the collection of the Van Gogh Museum.

## Dataset

With any museum’s understandable sensitivity to the uncontrolled distribution of high-resolution color images of the paintings in their collection, the image data to be provided for the challenge presented in this document will be “checkerboarded” on the right half. The right half of each high resolution color image will have every other square blacked out in a checkerboard pattern, which makes the images unappealing for unauthorized commercial reproduction. But for the feature discrimination image processing task at hand, the assumption being made is that the half-checkerboarding does not interfere significantly with the image processing - that may in fact begin with a segmentation of the painting into manageable blocks - in that the remaining

unblackened squares exhibit essentially (in a statistical sense) the same features as in the full set of squares covering the entire painting, at least up to the scale of the squares. In the dataset for the challenge in this document the checkerboard squares are 200 x 200 pixels in images of approximately 200 dpi across the painting surface. The reason for checkerboarding only half of the painting is to preserve some portion of the image at a larger scale.



21834.tif



56.183photo.tif



f218.tif



f234.tif



f248a.tif



f249.tif



KM110.535.tif



s219v.tif



s234.tif



s235v.tif



s251v.tif



s286v.tif



s502.tif