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Learning from Monet: A Fundamentally New Approach to Image Analysis¹

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The hands and minds of artists are intimately involved in the creative process, intrinsically making paintings complex images to analyze. In spite of this difficulty, several years ago the painter David Hockney and I identified optical evidence within a number of paintings that demonstrated artists as early as Jan van Eyck (c1425) used optical projections as aids for producing portions of their images. In the course of making those discoveries, Hockney and I developed new insights that are now being applied in a fundamentally new approach to image analysis. Very recent results from this new approach include identifying from Impressionist paintings by Monet, Pissarro, Renoir and others the precise locations the artists stood when making a number of their paintings. The specific deviations we find when accurately comparing these examples with photographs taken from the same locations provide us with key insights into what the artists' visual skills informed them were the ways to represent these two-dimensional images of three-dimensional scenes to viewers. As will be discussed, these results also have implications for improving the representation of certain scientific data. Acknowledgment: I am grateful to David Hockney for the many invaluable insights into imaging gained from him in our collaboration.

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