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# UNVEILING COLOR DYNAMICS IN ANDY WARHOL’S “SHOT MARILYNS”: A STUDY ON VISUAL VARIATIONS AND PERCEPTION

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A PREPRINT

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## Abstract

This study delves into the comparative analysis of five distinct versions of Andy Warhol’s “Shot Marilyns,” focusing on the intricacies of their color composition and distribution. Employing a range of analytical methods, including relative conditional entropy, this research investigates the unique color distributions and interrelations present in each artwork. Through the clustering of the artworks and the meticulous examination of specified regions of interest (ROIs)—namely, the backgrounds, hair, eyeshadow, and faces—we have unearthed profound insights into the constructional variances and similarities among the images. Our findings reveal that the presupposed uniformity in the coloration of certain elements stands contradicted, thereby underscoring the complexity and illusionary nature of color perception in visual art.

**Keywords** shot marilyns · marilyn monroe · andy warhol · region of interest · python

## 1 Introduction

“Shot Marilyns,” an illustrious artwork by the American artist Andy Warhol, stands as a testament to his exploration of celebrity culture and the commodification of images. Created in 1964, this series features multiple depictions of Marilyn Monroe, crafted in the wake of her untimely demise, thereby immortalizing her status as a cultural icon. Warhol’s fascination with fame, consumerism, and the media’s influence on societal perceptions is evident in his innovative use of silkscreen printing. This technique, adopted in August 1962, facilitated a production-line approach in art-making, enabling Warhol to replicate images with minor

variations. The “Shot Marilyns” series, inspired by Monroe’s death in the same year, utilized this method to produce screenprints of her image, employing photo stencils and a palette of vibrant inks to transfer her likeness onto canvas. This body of work underscores Warhol’s endeavor to dissect Monroe’s persona through repetitive imagery, each variation rendered in distinct colors and compositions, allowing for diverse visual interpretations.

The series’ repetitive nature serves as a critique of the pervasive commodification of celebrities, transforming them into ubiquitous symbols within popular culture. Warhol’s strategic use of bright, contrasting colors aims to encapsulate Monroe’s dynamic celebrity essence, with the vivid hues underscoring her societal allure and influence. This study seeks to analyze the pixel color distribution in RGB space across the five “Shot Marilyns” images, examining the interplay between primary colors through relative conditional entropy. Such an analysis aims to reveal the underlying emotional and symbolic connotations Warhol might have intended, with color distributions potentially reflecting varied moods and themes.

In 1964, an intriguing incident further contributed to the series’ lore when Dorothy Podber, a performance artist, mistakenly received permission from Warhol to “shoot” the Marilyns, leading to an act of literal gunfire that damaged four of the five canvases. This event birthed the “Shot Marilyns,” adding a layer of physical and conceptual depth to the artwork. Part of our project involves digitally restoring the “Blue Marilyn,” focusing on the gunshot damage, by analyzing and replicating the surrounding area’s color distribution.

This paper is intended for publication in the Journal on Computing and Cultural Heritage and aims to shed light on the technological intersections of art restoration and analysis, using Warhol’s “Shot Marilyns” as a pivotal study case.



(a) Figure 1.1: Orange Marilyn



(b) Figure 1.2: Red Marilyn



(c) Figure 1.3: Turquoise Marilyn



(d) Figure 1.4: Blue Marilyn



(e) Figure 1.5: Eggblue Marilyn

Figure 1: Different color variations of Marilyn Monroe

- 2 Methods
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- 6 Clustering based on Region of Interest (ROI)
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