

# Nanopublication — Computational Image Analysis - AQC0515

by Arnaud Quercy · Playgrounds · 2024

## Claim 1: Computational Image Analysis - AQC0515

Computational image analysis [3] of artwork Playgrounds [1] (AQC0515) [2] by Arnaud Quercy [2] using k-means clustering method with 10 color extraction parameters. Analysis includes color distribution, texture metrics, brightness/contrast measurements, and spatial pattern characterization. Analysis completed on 2026-02-04.

### CONTEXT

Analysis performed according to MMIDS-CMP-2025 [3] includes four metric categories: (1) Color distribution via k-means (10 colors), (2) Texture analysis using Haralick features, (3) Brightness and contrast measurements, (4) Spatial pattern characterization. Source image [5]: 1366x2048 pixels. Analysis date: 2026-02-04.

### COLOR ANALYSIS

Rank	Color Hex	%	Family	Name
1	9C998E	15.9	yellow	rosybrown
2	C2B8A2	15.4	yellow-orange	tan
3	E2D5BA	12.3	yellow-orange	wheat
4	777872	12.2	gray	gray
5	251D15	9.2	orange	very dark gray
6	A58556	8.8	yellow-orange	peru
7	D9B470	8.2	yellow-orange	burlywood
8	56554B	7.7	yellow	dark brown
9	CD6724	5.4	orange	chocolate
10	885226	4.8	orange	russet
11	61200B	0.3	red-orange	maroon [Accent]
12	5F6E9C	0.3	blue-violet	grayish purple [Accent]
13	B2C0CB	0.3	blue	silver [Accent]
14	7A81A2	0.3	violet	dusty mauve [Accent]

### Color Families:

Family	%
yellow-orange	44.8
yellow	23.6
orange	19.4
gray	12.2
red-orange	0.3
blue-violet	0.3
blue	0.3
violet	0.3

### Accent Colors:

Hex	Family	Name	Chroma
61200B	red-orange	maroon	40.3
5F6E9C	blue-violet	grayish purple	27.9
B2C0CB	blue	silver	7.6
7A81A2	violet	dusty mauve	18.7

### TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.212
Mean Local Roughness	0.056
Roughness Uniformity	0.025
Edge Density	0.329
Mean Gradient Magnitude	0.411
Gradient Variance	0.109
Gradient Smoothness	0.196
Directional Coherence	0.004
Pattern Complexity	0.121
Pattern Repetition	1.0
Detail Frequency Ratio	0.65
Spatial Variation	0.094
Texture Consistency	0.85

### BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.557
Brightness Variance	0.212
Brightness Uniformity	0.62
Brightness Skewness	-0.552
Brightness Entropy	7.662
Rms Contrast	0.212
Michelson Contrast	1.0
Weber Contrast	0.699
Mean Local Contrast	0.055
Contrast Uniformity	0.556
Dynamic Range	1.0
Effective Dynamic Range	0.737
Shadow Percentage	14.485
Midtone Percentage	50.824
Highlight Percentage	34.691
Shadow Clipping	0.041
Highlight Clipping	0.004
Tonal Balance	0.348
Fine Contrast	0.034
Medium Contrast	0.068
Coarse Contrast	0.089
Multiscale Contrast Ratio	0.384
Edge Contrast	0.411

Metric	Value
Contrast Clustering	0.15

## SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.663
Color Clustering	0.712
Color Transition Smoothness	0.0
Transition Uniformity	0.259
Sharp Transition Ratio	0.1
Transition Directionality	0.004
Mean Saturation	0.311
Saturation Variance	0.057
Low Saturation Ratio	0.624
Medium Saturation Ratio	0.277
High Saturation Ratio	0.099
Saturation Clustering	0.997
Hue Concentration	0.888
Complementary Balance	0.047
Analogous Dominance	0.949
Temperature Bias	0.881

## Methodology

This analysis employs standardized computational methods for objective image characterization. Color extraction uses k-means clustering algorithm. Texture analysis applies Haralick feature extraction. Brightness metrics include mean, variance, and distribution analysis. Spatial patterns are characterized through coherence

and clustering measurements. All methods are deterministic and reproducible. Analysis performed by Multimodal Institute's computational imaging systems.

## REFERENCES

- [1] Arnaud Quercy (2024). Playgrounds — Catalog raisonné. <https://arnaudquercy.art/en/catalogue-raisonne/AQC0515.html>
- [2] Quercy, A. (2025). Untitled - Gallery. [https://artquamanima.com/en/artworks/2024/01/playgrounds\\_5si.html](https://artquamanima.com/en/artworks/2024/01/playgrounds_5si.html)
- [3] Quercy, A. (2025). Computational Image Analysis Standard - MMIDS-CMP-2025 h <https://multimodal.institute/en/publications/2025/11/mmids-cmp-2025-computational-image-analysis-standard-dg1.html>

## EPISTEMIC PROFILE

Claim type	computational analysis
Voice	third person
Epistemic status	empirical measurement
Methodology	computational analysis
Certainty	high

## CHECKSUM (SHA-256)

0097b4473ed6caf7e37ba5d2866aa2c74e8234190f9213f7569317574e2e-fa34

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