AQC0419

Nanopublication — Computational Image Analysis - AQC0419

by Arnaud Quercy · Caribbean Rhythms · 2023

Claim 1: Computational Image Analysis - AQC0419

> K-means clustering analysis [3] (10 colors) performed on artwork Caribbean [1] Rhythms (AQC0419) [2] by Arnaud Quercy [2] on 2026-02-04. Documentation includes: color families, texture roughness, brightness distribution, spatial coherence.

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		CB985C	15.6	orange	peru
2		B4804C	15.4	orange	indianred
3		AF593C	15.2	orange	burnt sienna
4		161014	11.4	black	black
5		83382B	10.7	red-orange	russet
6		E1AD79	10.4	orange	burlywood
7		4E332B	7.7	red-orange	darkslategray
8		756647	6.3	yellow-orange	dimgray
9		2C3552	4.8	blue-violet	grayish purple
10		516A89	2.4	blue-violet	grayish purple
11		E07494	0.3	red	palevioletred [Accent]
12		0F1541	0.3	violet	very dark purple [Accent]
13		4A5E3E	0.3	yellow-green	dark brown [Accent]
14		625B1F	0.3	yellow	dark brown [Accent]
15		7B4D6C	0.3	red-violet	dusty mauve [Accent]

Color Families:

Family	%
orange	56.7
red-orange	18.4
black	11.4
blue-violet	7.2
yellow-orange	6.3
red	0.3
violet	0.3
yellow-green	0.3
yellow	0.3
red-violet	0.3

Accent Colors:

Hex	Family	Name	Chroma
E07494	red	palevioletred	45.0
0F1541	violet	very dark purple	32.2
4A5E3E	yellow-green	dark brown	21.3
625B1F	yellow	dark brown	34.4
7B4D6C	red-violet	dusty mauve	26.0

TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.2
Mean Local Roughness	0.006
Roughness Uniformity	0.011
Edge Density	0.009
Mean Gradient Magnitude	0.055
Gradient Variance	0.02
Gradient Smoothness	0.0
Directional Coherence	0.178
Pattern Complexity	0.103
Pattern Repetition	1.0
Detail Frequency Ratio	0.57
Spatial Variation	0.078
Texture Consistency	0.683

BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.428
Brightness Variance	0.2
Brightness Uniformity	0.532
Brightness Skewness	-0.301
Brightness Entropy	7.524
Rms Contrast	0.2
Michelson Contrast	1.0
Weber Contrast	0.838
Mean Local Contrast	0.007
Contrast Uniformity	0.0
Dynamic Range	0.859
Effective Dynamic Range	0.655
Shadow Percentage	31.981
Midtone Percentage	55.742
Highlight Percentage	12.277
Shadow Clipping	0.0
Highlight Clipping	0.0
Tonal Balance	0.304
Fine Contrast	0.003
Medium Contrast	0.009
Coarse Contrast	0.018

Metric	Value
Multiscale Contrast Ratio	0.176
Edge Contrast	0.055
Contrast Clustering	0.317

SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.689
Color Clustering	0.645
Color Transition Smoothness	0.83
Transition Uniformity	0.851
Sharp Transition Ratio	0.1
Transition Directionality	0.168
Mean Saturation	0.547
Saturation Variance	0.02
Low Saturation Ratio	0.057
Medium Saturation Ratio	0.839
High Saturation Ratio	0.103
Saturation Clustering	0.999
Hue Concentration	0.779
Complementary Balance	0.061
Analogous Dominance	0.871
Temperature Bias	0.805

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 (2023). Caribbean Rhythms — Catalog raisonné. https://arnaudquercy.art/en/catalogue-raisonne/AQC0419.html

[2] Quercy, A. (2025). Untitled - Gallery. https://artquamanima.com/en/artworks/2023/01/caribbean-rhythms_4r6.html

[3] Quercy, A. (2025). Computational Image Analysis Standard - MMIDS-CMP-2025 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)

87e0bef41fd83bcbdc917786f-bebba7601586695d2061d8d2184773990922f1f

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