Nanopublication — Computational Image Analysis - AQC0779

by Arnaud Quercy · D Major - Research on Harmony - Variation 10 · 2024

Claim 1: Computational Image Analysis - AQC0779

> K-means clustering analysis [3] (10 colors) performed on artwork D Major [1] - Research on Harmony - Variation 10 (AQC0779) [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]: 2276x3414 pixels. Analysis date: 2026-02-04.

COLOR ANALYSIS

Rank	Color	Hex	%	Family	Name
1		343E33	15.0	yellow-green	darkslategray
2		8F8A77	13.8	yellow	gray
3		7DB088	13.7	yellow-green	darkseagreen
4		201C19	12.0	gray	very dark gray
5		B1A688	10.9	yellow-orange	rosybrown
6		D0A376	10.7	orange	tan
7		D3780F	9.0	orange	chocolate
8		CA962F	6.6	yellow-orange	peru
9		D2C4AD	4.9	yellow-orange	silver
10		87622C	3.3	yellow-orange	burnt sienna
11		451102	0.3	red-orange	very dark red [Accent]
12		AFBEC3	0.3	blue	silver [Accent]

Color Families:

Family	%
yellow-green	28.8
yellow-orange	25.7
orange	19.7
yellow	13.8
gray	12.0
red-orange	0.3
blue	0.3

Accent Colors:

Hex	Family	Name	Chroma
451102	red-orange	very dark red	31.2
AFBEC3	blue	silver	5.7

TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.208
Mean Local Roughness	0.01
Roughness Uniformity	0.015
Edge Density	0.021
Mean Gradient Magnitude	0.103
Gradient Variance	0.046
Gradient Smoothness	0.0
Directional Coherence	0.035
Pattern Complexity	0.118
Pattern Repetition	1.0
Detail Frequency Ratio	0.574
Spatial Variation	0.146
Texture Consistency	0.495

BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.49
Brightness Variance	0.208
Brightness Uniformity	0.576
Brightness Skewness	-0.721
Brightness Entropy	7.167
Rms Contrast	0.208
Michelson Contrast	1.0
Weber Contrast	0.798
Mean Local Contrast	0.013
Contrast Uniformity	0.0
Dynamic Range	1.0
Effective Dynamic Range	0.616
Shadow Percentage	25.959
Midtone Percentage	56.839
Highlight Percentage	17.202
Shadow Clipping	0.01
Highlight Clipping	0.001
Tonal Balance	0.0
Fine Contrast	0.005
Medium Contrast	0.016
Coarse Contrast	0.033
Multiscale Contrast Ratio	0.152
Edge Contrast	0.103
Contrast Clustering	0.505

SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.758
Color Clustering	0.66

Metric	Value
Color Transition Smoothness	0.72
Transition Uniformity	0.674
Sharp Transition Ratio	0.1
Transition Directionality	0.046
Mean Saturation	0.362
Saturation Variance	0.076
Low Saturation Ratio	0.573
Medium Saturation Ratio	0.243
High Saturation Ratio	0.184
Saturation Clustering	0.999
Hue Concentration	0.748
Complementary Balance	0.004
Analogous Dominance	0.741
Temperature Bias	0.493

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). D Major - Research on Harmony - Variation 10 — Catalog raisonné. https://arnaudquercy.art/en/catalogue-raisonne/AQC0779.html

[2] Quercy, A. (2025). Untitled - Gallery. https://artquamanima.com/en/artworks/2024/01/d-major-research-on-harmony-variation-10_8n6.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)

7c8cb54e8e1cc4587433be086a4cd97b94d59bd3c0d74a8ca45ec6d-db99050da

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