

Nanopublication – Computational Image Analysis –
AQC0625

by Arnaud Quercy · D Major – Research on Harmony · 2024



CLAIM 1: COMPUTATIONAL IMAGE ANALYSIS - AQC0625

K-means clustering analysis [3] (10 colors) performed on artwork D Major [1] – Research on Harmony (AQC0625) [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]: 2315x3472 pixels. Analysis date: 2026-02-04.

COLOR ANALYSIS

Rank	Color	Hex	%	Family	Name
1		ED9B1F	22.9	orange	goldenrod
2		4E8741	19.9	yellow-green	dark brown
3		5B9751	19.7	yellow-green	seagreen
4		D75C13	13.6	orange	chocolate
5		15110B	7.2	black	black
6		75AE6B	4.6	yellow-green	darkseagreen
7		352B1D	3.9	orange	very dark gray
8		A13C0E	3.8	orange	russet
9		65675B	3.3	yellow-green	dimgray
10		D3DCCD	1.0	yellow-green	lightgray
11		E6B154	0.3	yellow-orange	sandybrown [Accent]
12		8E882B	0.3	yellow	olivedrab [Accent]
13		7E2109	0.3	red-orange	maroon [Accent]

Color Families:

Family	%
yellow-green	48.6
orange	44.2
black	7.2
yellow-orange	0.3
yellow	0.3
red-orange	0.3

Accent Colors:

Hex	Family	Name	Chroma
E6B154	yellow-orange	sandybrown	54.9
8E882B	yellow	olivedrab	48.8
7E2109	red-orange	maroon	53.1

TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.165
Mean Local Roughness	0.022
Roughness Uniformity	0.024
Edge Density	0.11
Mean Gradient Magnitude	0.186
Gradient Variance	0.06
Gradient Smoothness	0.0
Directional Coherence	0.016
Pattern Complexity	0.116
Pattern Repetition	1.0
Detail Frequency Ratio	0.638
Spatial Variation	0.121
Texture Consistency	0.589

BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.471
Brightness Variance	0.165
Brightness Uniformity	0.649
Brightness Skewness	-0.864
Brightness Entropy	6.834
Rms Contrast	0.165
Michelson Contrast	1.0
Weber Contrast	0.72
Mean Local Contrast	0.025
Contrast Uniformity	0.04
Dynamic Range	1.0
Effective Dynamic Range	0.588
Shadow Percentage	13.088
Midtone Percentage	79.69
Highlight Percentage	7.221
Shadow Clipping	0.022
Highlight Clipping	0.005
Tonal Balance	0.0
Fine Contrast	0.012
Medium Contrast	0.031
Coarse Contrast	0.048
Multiscale Contrast Ratio	0.246
Edge Contrast	0.186
Contrast Clustering	0.411

SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.78
Color Clustering	0.46
Color Transition Smoothness	0.526
Transition Uniformity	0.611
Sharp Transition Ratio	0.1
Transition Directionality	0.014
Mean Saturation	0.628
Saturation Variance	0.059
Low Saturation Ratio	0.066
Medium Saturation Ratio	0.518
High Saturation Ratio	0.416
Saturation Clustering	0.998
Hue Concentration	0.755
Complementary Balance	0.0
Analogous Dominance	0.598
Temperature Bias	0.504

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 - Catalog raisonn  . <https://arnaudquercy.art/en/catalogue-raisonne/AQC0625.html>

[2] Quercy, A. (2025). Untitled - Gallery. https://artquamanima.com/en/artworks/2024/01/d-major-research-on-harmony_6za.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>

WHERE THIS WORK LIVES

THEMATIC ELEMENTS

chromesthetic translation

D Major triad

synesthetic art

musical harmony visualization

acrylic on paper

Synesthetic Explorations

orange yellow-green composition

harmonic color relationships

EPISTEMIC PROFILE

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

CHECKSUM (SHA-256)

3035ba1c138868c986674dfe931e4ab9aa9a321797a6ad65e5abf2ec2b1ea981

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