

Nanopublication – Computational Image Analysis – AQC0780

by Arnaud Quercy · D Major – Research on Harmony – Variation 11 · 2024



CLAIM 1: COMPUTATIONAL IMAGE ANALYSIS – AQC0780

K-means clustering (10 colors) performed on artwork D Major – Research on Harmony – Variation 11 (AQC0780) [1] by Arnaud Quercy [2] on 2025-10-03, according to IDS-CMP-2025 [3]. Documentation includes: color families, texture roughness, brightness distribution, spatial coherence.

CONTEXT

Analysis performed according to IDS-CMP-2025 [3] includes four metric categories: (a) Color distribution via k-means (10 colors), (b) Texture analysis using Haralick features, (c) Brightness and contrast measurements, (d) Spatial pattern characterization. Source image: 2360x3540 pixels. Analysis date: 2025-10-03.

A) COLOR ANALYSIS

Rank	Color	Hex	%	Family	Name
1		222122	17.9	gray	very dark gray
2		B58628	15.7	yellow-orange	darkgoldenrod
3		CF7F15	15.4	orange	chocolate
4		DB9D36	11.9	yellow-orange	goldenrod
5		818476	11.4	yellow-green	gray
6		A39886	7.8	yellow-orange	rosybrown
7		976021	7.6	orange	burnt sienna
8		3A5542	4.3	yellow-green	darkslategray
9		D9BA9D	4.3	orange	tan
10		A87E55	4.0	orange	peru
11		210402	0.3	red-orange	very dark gray [Accent]
12		716B3F	0.3	yellow	dark brown [Accent]

Color Families:

Family	%
yellow-orange	35.3
orange	31.2
gray	17.9
yellow-green	15.6
red-orange	0.3
yellow	0.3

Accent Colors:

Hex	Family	Name	Chroma
210402	red-orange	very dark gray	12.1
716B3F	yellow	dark brown	25.5

B) TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.183
Mean Local Roughness	0.012
Roughness Uniformity	0.012
Edge Density	0.04
Mean Gradient Magnitude	0.131
Gradient Variance	0.032
Gradient Smoothness	0.0
Directional Coherence	0.019
Pattern Complexity	0.106
Pattern Repetition	1.0
Detail Frequency Ratio	0.57
Spatial Variation	0.121
Texture Consistency	0.551

C) BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.471
Brightness Variance	0.183
Brightness Uniformity	0.611
Brightness Skewness	-0.852
Brightness Entropy	7.013
Rms Contrast	0.183
Michelson Contrast	1.0
Weber Contrast	0.794
Mean Local Contrast	0.016
Contrast Uniformity	0.022
Dynamic Range	1.0
Effective Dynamic Range	0.588
Shadow Percentage	21.658
Midtone Percentage	70.569
Highlight Percentage	7.773
Shadow Clipping	0.003
Highlight Clipping	0.0
Tonal Balance	0.0
Fine Contrast	0.006
Medium Contrast	0.019
Coarse Contrast	0.038
Multiscale Contrast Ratio	0.148
Edge Contrast	0.131
Contrast Clustering	0.449

D) SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.728
Color Clustering	0.445
Color Transition Smoothness	0.654
Transition Uniformity	0.773
Sharp Transition Ratio	0.1
Transition Directionality	0.021
Mean Saturation	0.525
Saturation Variance	0.103
Low Saturation Ratio	0.38
Medium Saturation Ratio	0.146
High Saturation Ratio	0.474
Saturation Clustering	0.999
Hue Concentration	0.876
Complementary Balance	0.023
Analogous Dominance	0.916
Temperature Bias	0.84

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 Ideamorphic Studies' computational imaging systems.

REFERENCES

[1] Quercy, A. (2024). D Major - Research on Harmony - Variation 11 - Catalogue Raisonné. <https://arnaudquercy.art/en/catalogue-raisonne/AQC0780.html>

[2] Quercy, A. (2025). ORCID <https://orcid.org/0009-0000-2662-7790>

[3] Quercy, A. (2026). Computational Image Analysis Standard. <https://ideamorphism.org/en/measurements/2025/09/ids-cmp-2025-computational-image-analysis-standard-5dq9.html>

EPISTEMIC PROFILE

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

CHECKSUM (SHA-256)

b45edc045e57fc04676f5cff93a237251063c5c371575850b3f0ff9187034c43

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Artist	Arnaud Quercy
Date	2024
Collection	Harmonic Crossing
Certificate	20241201-0277
Asset code	AQC0780
Identifier	NAN-COL000174
Version	1
Published	2025-10-03

ISSN: applied for – U.S. ISSN Center, Library of Congress

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Published by Art Quam Anima Publishing New York,
an assumed name of AQA Publishing LLC

c/o Northwest Registered Agent, 418 Broadway Ste N
Albany, NY 12207, USA
+1 917-764-5470

NY DOS ID 7624376 · Assumed Name ID 7658709

publishing.artquamanima.com

Last updated: 2026-09-15

Persistent URI: <https://ideamorphism.org/en/nanopubs/2025/10/AQC0780-computational-image-analysis-aqc0780.pdf>