

Nanopublication – Computational Image Analysis – AQC0812

by Arnaud Quercy · B Major – Research on Harmony – Variation 5 · 2025



CLAIM 1: COMPUTATIONAL IMAGE ANALYSIS – AQC0812

K-means clustering (10 colors) performed on artwork B Major – Research on Harmony – Variation 5 (AQC0812) ^[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: 2353x3138 pixels. Analysis date: 2025-10-03.

A) COLOR ANALYSIS

Rank	Color	Hex	%	Family	Name
1		C2CABC	16.0	yellow-green	silver
2		D2D9AC	15.1	yellow-green	palegoldenrod
3		ABB7AA	13.9	yellow-green	steel gray
4		A0A68B	13.4	yellow-green	darkseagreen
5		DDE1CE	12.1	yellow-green	gainsboro
6		BDC397	11.8	yellow-green	tan
7		888D79	8.2	yellow-green	gray
8		554278	3.8	violet	dusty mauve
9		6B705C	3.6	yellow-green	dimgray
10		282826	2.1	gray	very dark gray
11		504F27	0.3	yellow	dark brown [Accent]
12		E5A994	0.3	orange	burlywood [Accent]
13		E7AB9B	0.3	red-orange	burlywood [Accent]

Color Families:

Family	%
yellow-green	94.1
violet	3.8
gray	2.1
yellow	0.3
orange	0.3
red-orange	0.3

Accent Colors:

Hex	Family	Name	Chroma
504F27	yellow	dark brown	24.7
E5A994	orange	burlywood	26.9
E7AB9B	red-orange	burlywood	26.2

B) TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.162
Mean Local Roughness	0.039
Roughness Uniformity	0.026
Edge Density	0.229
Mean Gradient Magnitude	0.303
Gradient Variance	0.082
Gradient Smoothness	0.057
Directional Coherence	0.002
Pattern Complexity	0.122
Pattern Repetition	1.0
Detail Frequency Ratio	0.643
Spatial Variation	0.071
Texture Consistency	0.697

C) BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.699
Brightness Variance	0.162
Brightness Uniformity	0.768
Brightness Skewness	-1.436
Brightness Entropy	7.109
Rms Contrast	0.162
Michelson Contrast	1.0
Weber Contrast	0.436
Mean Local Contrast	0.04
Contrast Uniformity	0.369
Dynamic Range	1.0
Effective Dynamic Range	0.545
Shadow Percentage	4.87
Midtone Percentage	25.395
Highlight Percentage	69.735
Shadow Clipping	0.013
Highlight Clipping	0.013
Tonal Balance	0.0
Fine Contrast	0.023
Medium Contrast	0.05
Coarse Contrast	0.07
Multiscale Contrast Ratio	0.333
Edge Contrast	0.303
Contrast Clustering	0.303

D) SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.705
Color Clustering	0.798
Color Transition Smoothness	0.261
Transition Uniformity	0.488
Sharp Transition Ratio	0.1
Transition Directionality	0.002
Mean Saturation	0.16
Saturation Variance	0.011
Low Saturation Ratio	0.917
Medium Saturation Ratio	0.082
High Saturation Ratio	0.001
Saturation Clustering	0.999
Hue Concentration	0.723
Complementary Balance	0.053
Analogous Dominance	0.854
Temperature Bias	0.022

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. (2025). B Major - Research on Harmony - Variation 5 - Catalogue Raisonné. <https://arnaudquercy.art/en/catalogue-raisonne/AQC0812.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)

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