AQC0719 | NAN-COL000235

Nanopublication — Computational Image Analysis - AQC0719

by Arnaud Quercy · B Minor - Research on Harmony - Variation 3 · 2024

CLAIM 1: COMPUTATIONAL IMAGE ANALYSIS - AQC0719

K-means clustering (10 colors) performed on artwork B Minor - Research on Harmony - Variation 3 (AQC0719) [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: 3024x4032 pixels. Analysis date: 2025-10-03.

A) COLOR ANALYSIS

Rank	Color	Hex	%	Family	Name
1		74C497	16.7	yellow-green	mediumaquamarine
2		62B589	15.4	yellow-green	cadetblue
3		98DA95	11.8	yellow-green	lightgreen
4		1C2423	11.7	gray	very dark gray
5		AB8A46	11.4	yellow-orange	peru
6		D2C4A6	11.3	yellow-orange	tan
7		B3AD9D	9.7	yellow	steel gray
8		3C434A	5.9	blue-violet	grayish purple
9		747B7C	4.9	gray	gray
10		3C9749	1.3	yellow-green	seagreen
11		160A03	0.3	orange	black [Accent]
12		1B0503	0.3	red-orange	black [Accent]
13		B8C2CA	0.3	blue	silver [Accent]
14		ADD4C8	0.3	green	lightsteelblue [Accent]

Color Families:

Family	%
yellow-green	45.1
yellow-orange	22.7
gray	16.6
yellow	9.7
blue-violet	5.9
orange	0.3
red-orange	0.3
blue	0.3
green	0.3

Accent Colors:

Hex	Family	Name	Chroma
160A03	orange	black	5.7
1B0503	red-orange	black	8.9
B8C2CA	blue	silver	5.4
ADD4C8	green	lightsteelblue	15.1

B) TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.204
Mean Local Roughness	0.036
Roughness Uniformity	0.029
Edge Density	0.178
Mean Gradient Magnitude	0.25
Gradient Variance	0.09
Gradient Smoothness	0.0
Directional Coherence	0.006
Pattern Complexity	0.121
Pattern Repetition	1.0
Detail Frequency Ratio	0.677
Spatial Variation	0.121
Texture Consistency	0.423

C) BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.566
Brightness Variance	0.204
Brightness Uniformity	0.64
Brightness Skewness	-1.121
Brightness Entropy	7.237
Rms Contrast	0.204
Michelson Contrast	1.0
Weber Contrast	0.764
Mean Local Contrast	0.036
Contrast Uniformity	0.133
Dynamic Range	1.0
Effective Dynamic Range	0.655
Shadow Percentage	16.911
Midtone Percentage	46.951
Highlight Percentage	36.138
Shadow Clipping	0.066
Highlight Clipping	0.001
Tonal Balance	0.0
Fine Contrast	0.023
Medium Contrast	0.045
Coarse Contrast	0.055
Multiscale Contrast Ratio	0.41
Edge Contrast	0.25
Contrast Clustering	0.577

D) SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.725
Color Clustering	0.775
Color Transition Smoothness	0.364
Transition Uniformity	0.373
Sharp Transition Ratio	0.1
Transition Directionality	0.008
Mean Saturation	0.359
Saturation Variance	0.029
Low Saturation Ratio	0.333
Medium Saturation Ratio	0.646
High Saturation Ratio	0.021
Saturation Clustering	0.997
Hue Concentration	0.603
Complementary Balance	0.085
Analogous Dominance	0.649
Temperature Bias	-0.357

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). B Minor - Research on Harmony - Variation 3 - Catalogue Raisonné. https://arnaudquercy.art/en/catalogue-raisonne/AQC0719.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

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