AQC0785 | NAN-COL000169

Nanopublication — Computational Image Analysis - AQC0785

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

CLAIM 1: COMPUTATIONAL IMAGE ANALYSIS - AQC0785

K-means clustering (10 colors) performed on artwork E Minor - Research on Harmony - Variation 3 (AQC0785) [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: 2382x3574 pixels. Analysis date: 2025-10-03.

A) COLOR ANALYSIS

Rank	Color	Hex	%	Family	Name
1		A39B89	22.3	yellow-orange	rosybrown
2		D7B964	16.0	yellow-orange	ochre
3		264876	11.0	blue-violet	grayish purple
4		1C1C23	10.6	gray	very dark gray
5		B5AD9B	9.7	yellow-orange	steel gray
6		8D8B7B	9.5	yellow	gray
7		252D43	7.4	blue-violet	very dark indigo
8		D8B02F	6.9	yellow-orange	goldenrod
9		9CA40E	4.5	yellow	darkgoldenrod
10		53544D	2.1	gray	darkslategray
11		62A1AF	0.3	blue-green	cadetblue [Accent]
12		7D5125	0.3	orange	russet [Accent]
13		CCDB87	0.3	yellow-green	khaki [Accent]
14		180707	0.3	red	black [Accent]
15		4E6F87	0.3	blue	grayish purple [Accent]

Color Families:

Family	%
yellow-orange	54.8
blue-violet	18.4
yellow	14.0
gray	12.7
blue-green	0.3
orange	0.3
yellow-green	0.3
red	0.3
blue	0.3

Accent Colors:

Hex	Family	Name	Chroma
62A1AF	blue-green	cadetblue	21.3
7D5125	orange	russet	35.8
CCDB87	yellow-green	khaki	43.9
180707	red	black	8.2
4E6F87	blue	grayish purple	17.7

B) TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.219
Mean Local Roughness	0.01
Roughness Uniformity	0.014
Edge Density	0.029
Mean Gradient Magnitude	0.11
Gradient Variance	0.038
Gradient Smoothness	0.0
Directional Coherence	0.029
Pattern Complexity	0.115
Pattern Repetition	1.0
Detail Frequency Ratio	0.567
Spatial Variation	0.146
Texture Consistency	0.423

C) BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.504
Brightness Variance	0.219
Brightness Uniformity	0.566
Brightness Skewness	-0.728
Brightness Entropy	7.069
Rms Contrast	0.219
Michelson Contrast	1.0
Weber Contrast	0.799
Mean Local Contrast	0.013
Contrast Uniformity	0.0
Dynamic Range	1.0
Effective Dynamic Range	0.62
Shadow Percentage	29.452
Midtone Percentage	42.862
Highlight Percentage	27.687
Shadow Clipping	0.011
Highlight Clipping	0.0
Tonal Balance	0.0
Fine Contrast	0.005
Medium Contrast	0.016
Coarse Contrast	0.033
Multiscale Contrast Ratio	0.151
Edge Contrast	0.11
Contrast Clustering	0.577

D) SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.769
Color Clustering	0.482
Color Transition Smoothness	0.702
Transition Uniformity	0.718
Sharp Transition Ratio	0.1
Transition Directionality	0.04
Mean Saturation	0.393
Saturation Variance	0.072
Low Saturation Ratio	0.503
Medium Saturation Ratio	0.323
High Saturation Ratio	0.174
Saturation Clustering	0.999
Hue Concentration	0.159
Complementary Balance	0.219
Analogous Dominance	0.574
Temperature Bias	0.088

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). E Minor - Research on Harmony - Variation 3 - Catalogue Raisonné. https://arnaudquercy.art/en/catalogue-raisonne/AQC0785.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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