AQC0635 | NAN-COL000311

Nanopublication — Computational Image Analysis - AQC0635

by Arnaud Quercy · F Major - Research on Harmony - Variation 1 · 2024

CLAIM 1: COMPUTATIONAL IMAGE ANALYSIS - AQC0635

Computational image analysis of artwork F Major - Research on Harmony - Variation 1 (AQC0635) [1] by Arnaud Quercy [2], performed according to IDS-CMP-2025 [3], using k-means clustering method with 10 color extraction parameters. Analysis includes color distribution, texture metrics, brightness/contrast measurements, and spatial pattern characterization. Analysis completed on 2025-10-03.

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: 2294x3441 pixels. Analysis date: 2025-10-03.

A) COLOR ANALYSIS

Rank	Color	Hex	%	Family	Name
1		EC9E20	25.5	orange	goldenrod
2		D5341B	18.6	red-orange	firebrick
3		3A3035	15.3	red-violet	dusty mauve
4		4E4347	10.7	red	dusty mauve
5		191817	10.1	gray	black
6		84878A	6.4	gray	grayish purple
7		686062	5.8	gray	dimgray
8		934A42	3.1	red-orange	burnt sienna
9		C37A14	2.6	orange	darkgoldenrod
10		DCDBD7	2.0	white	gainsboro
11		A88447	0.3	yellow-orange	peru [Accent]
12		F1FEFC	0.3	green	white [Accent]
13		ACBFC8	0.3	blue	silver [Accent]
14		AEC3C6	0.3	blue-green	silver [Accent]

Color Families:

Family	%
orange	28.1
gray	22.2
red-orange	21.7
red-violet	15.3
red	10.7
white	2.0
yellow-orange	0.3
green	0.3
blue	0.3
blue-green	0.3

Accent Colors:

Hex	Family	Name	Chroma
A88447	yellow-orange	peru	38.5
F1FEFC	green	white	5.1
ACBFC8	blue	silver	8.6
AEC3C6	blue-green	silver	8.1

B) TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.202
Mean Local Roughness	0.024
Roughness Uniformity	0.033
Edge Density	0.094
Mean Gradient Magnitude	0.203
Gradient Variance	0.113
Gradient Smoothness	0.0
Directional Coherence	0.03
Pattern Complexity	0.118
Pattern Repetition	1.0
Detail Frequency Ratio	0.638
Spatial Variation	0.145
Texture Consistency	0.666

C) BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.409
Brightness Variance	0.202
Brightness Uniformity	0.505
Brightness Skewness	0.193
Brightness Entropy	7.314
Rms Contrast	0.202
Michelson Contrast	1.0
Weber Contrast	0.776
Mean Local Contrast	0.027
Contrast Uniformity	0.0
Dynamic Range	1.0
Effective Dynamic Range	0.596
Shadow Percentage	36.803
Midtone Percentage	52.996
Highlight Percentage	10.201
Shadow Clipping	0.081
Highlight Clipping	0.041
Tonal Balance	0.0
Fine Contrast	0.012
Medium Contrast	0.034
Coarse Contrast	0.057
Multiscale Contrast Ratio	0.217
Edge Contrast	0.203
Contrast Clustering	0.334

D) SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.77
Color Clustering	0.592
Color Transition Smoothness	0.45
Transition Uniformity	0.198
Sharp Transition Ratio	0.1
Transition Directionality	0.036
Mean Saturation	0.506
Saturation Variance	0.131
Low Saturation Ratio	0.461
Medium Saturation Ratio	0.066
High Saturation Ratio	0.474
Saturation Clustering	0.998
Hue Concentration	0.865
Complementary Balance	0.031
Analogous Dominance	0.937
Temperature Bias	0.926

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). F Major - Research on Harmony - Variation 1 - Catalogue Raisonné. https://arnaudquercy.art/en/catalogue-raisonne/AQC0635.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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