

Nanopublication – Computational Image Analysis –
AQC0598

by Arnaud Quercy · F minor – Research on Harmony – Variation 4 · 2024



CLAIM 1: COMPUTATIONAL IMAGE ANALYSIS – AQC0598

K-means clustering (10 colors) performed on artwork F minor – Research on Harmony – Variation 4 (AQC0598) ^[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: 2660x3546 pixels. Analysis date: 2025-10-03.

A) COLOR ANALYSIS

Rank	Color	Hex	%	Family	Name
1		384450	16.5	blue-violet	grayish purple
2		663439	15.7	red-orange	russet
3		DBDBDA	15.3	white	gainsboro
4		CFC5B0	14.6	yellow-orange	silver
5		E6D8B8	13.3	yellow-orange	wheat
6		095CCA	9.0	violet	royalblue
7		2D252A	7.8	red-violet	very dark gray
8		60A2C6	3.7	blue	cadetblue
9		866D72	2.5	red	gray
10		C97D3D	1.6	orange	peru
11		74C1D4	0.3	blue-green	skyblue [Accent]
12		F9F6EC	0.3	yellow	white [Accent]

Color Families:

Family	%
yellow-orange	28.0
blue-violet	16.5
red-orange	15.7
white	15.3
violet	9.0
red-violet	7.8
blue	3.7
red	2.5
orange	1.6
blue-green	0.3
yellow	0.3

Accent Colors:

Hex	Family	Name	Chroma
74C1D4	blue-green	skyblue	25.5
F9F6EC	yellow	white	5.1

B) TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.282
Mean Local Roughness	0.02
Roughness Uniformity	0.036
Edge Density	0.063
Mean Gradient Magnitude	0.155
Gradient Variance	0.111
Gradient Smoothness	0.0
Directional Coherence	0.103
Pattern Complexity	0.119
Pattern Repetition	1.0
Detail Frequency Ratio	0.645
Spatial Variation	0.204
Texture Consistency	0.594

C) BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.526
Brightness Variance	0.282
Brightness Uniformity	0.464
Brightness Skewness	0.091
Brightness Entropy	7.052
Rms Contrast	0.282
Michelson Contrast	1.0
Weber Contrast	0.745
Mean Local Contrast	0.021
Contrast Uniformity	0.0
Dynamic Range	1.0
Effective Dynamic Range	0.718
Shadow Percentage	44.826
Midtone Percentage	11.861
Highlight Percentage	43.313
Shadow Clipping	0.007
Highlight Clipping	0.044
Tonal Balance	0.0
Fine Contrast	0.011
Medium Contrast	0.027
Coarse Contrast	None
Multiscale Contrast Ratio	1.0
Edge Contrast	0.155
Contrast Clustering	0.406

D) SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.759
Color Clustering	0.727
Color Transition Smoothness	0.594
Transition Uniformity	0.269
Sharp Transition Ratio	0.1
Transition Directionality	0.111
Mean Saturation	0.321
Saturation Variance	0.075
Low Saturation Ratio	0.626
Medium Saturation Ratio	0.25
High Saturation Ratio	0.124
Saturation Clustering	0.999
Hue Concentration	0.169
Complementary Balance	0.096
Analogous Dominance	0.515
Temperature Bias	0.081

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 minor - Research on Harmony - Variation 4 - Catalogue Raisonné. <https://arnaudquercy.art/en/catalogue-raisonne/AQC0598.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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