

Nanopublication – Computational Image Analysis –
AQC0640

by Arnaud Quercy · G minor – Research on Harmony – Variation 1 · 2024



CLAIM 1: COMPUTATIONAL IMAGE ANALYSIS – AQC0640

K-means clustering (10 colors) performed on artwork G minor – Research on Harmony – Variation 1 (AQC0640) ^[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: 1772x2658 pixels. Analysis date: 2025-10-03.

A) COLOR ANALYSIS

Rank	Color	Hex	%	Family	Name
1		ED730C	34.4	orange	darkorange
2		86CC67	15.3	yellow-green	darkseagreen
3		99DE76	13.1	yellow-green	lightgreen
4		212522	11.0	gray	very dark gray
5		12110D	8.6	black	black
6		F07E29	6.6	orange	chocolate
7		48360B	3.2	yellow-orange	dark brown
8		565F2C	2.7	yellow-green	dark brown
9		8C4C1C	2.5	orange	russet
10		73835C	2.4	yellow-green	dimgray
11		4F655F	0.3	green	dimgray [Accent]
12		526566	0.3	blue-green	dimgray [Accent]

Color Families:

Family	%
orange	43.5
yellow-green	33.5
gray	11.0
black	8.6
yellow-orange	3.2
green	0.3
blue-green	0.3

Accent Colors:

Hex	Family	Name	Chroma
4F655F	green	dimgray	10.0
526566	blue-green	dimgray	7.6

B) TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.223
Mean Local Roughness	0.02
Roughness Uniformity	0.028
Edge Density	0.071
Mean Gradient Magnitude	0.168
Gradient Variance	0.083
Gradient Smoothness	0.0
Directional Coherence	0.024
Pattern Complexity	0.117
Pattern Repetition	1.0
Detail Frequency Ratio	0.63
Spatial Variation	0.164
Texture Consistency	0.704

C) BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.488
Brightness Variance	0.223
Brightness Uniformity	0.544
Brightness Skewness	-0.776
Brightness Entropy	6.987
Rms Contrast	0.223
Michelson Contrast	1.0
Weber Contrast	0.843
Mean Local Contrast	0.023
Contrast Uniformity	0.0
Dynamic Range	1.0
Effective Dynamic Range	0.682
Shadow Percentage	25.166
Midtone Percentage	50.63
Highlight Percentage	24.204
Shadow Clipping	0.012
Highlight Clipping	0.001
Tonal Balance	0.0
Fine Contrast	0.011
Medium Contrast	0.029
Coarse Contrast	0.045
Multiscale Contrast Ratio	0.236
Edge Contrast	0.168
Contrast Clustering	0.296

D) SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.75
Color Clustering	0.578
Color Transition Smoothness	0.552
Transition Uniformity	0.4
Sharp Transition Ratio	0.1
Transition Directionality	0.03
Mean Saturation	0.63
Saturation Variance	0.101
Low Saturation Ratio	0.181
Medium Saturation Ratio	0.341
High Saturation Ratio	0.479
Saturation Clustering	0.997
Hue Concentration	0.802
Complementary Balance	0.004
Analogous Dominance	0.905
Temperature Bias	0.551

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). G minor - Research on Harmony - Variation 1 - Catalogue Raisonné. <https://arnaudquercy.art/en/catalogue-raisonne/AQC0640.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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