

Nanopublication – Computational Image Analysis – AQC0704

by Arnaud Quercy · F Minor – Research on Harmony – Variation 9 · 2024



CLAIM 1: COMPUTATIONAL IMAGE ANALYSIS - AQC0704

K-means clustering (10 colors) performed on artwork F Minor – Research on Harmony – Variation 9 (AQC0704) [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: 2480x2480 pixels. Analysis date: 2025-10-03.

A) COLOR ANALYSIS

Rank	Color	Hex	%	Family	Name
1		7E5D6B	18.4	red	dusty mauve
2		DF776F	16.2	red-orange	lightcoral
3		302821	13.6	orange	very dark gray
4		4A4045	11.6	red	dusty mauve
5		EA7159	11.5	red-orange	coral
6		A33C27	8.2	red-orange	brown
7		E3CA9F	8.2	yellow-orange	burlywood
8		525363	6.9	violet	dusty mauve
9		647687	4.3	blue	grayish purple
10		AF8F8A	1.2	red-orange	rosybrown
11		DFD9CA	0.3	yellow	lightgray [Accent]
12		6284B2	0.3	blue-violet	grayish purple [Accent]

Color Families:

Family	%
red-orange	37.1
red	29.9
orange	13.6
yellow-orange	8.2
violet	6.9
blue	4.3
yellow	0.3
blue-violet	0.3

Accent Colors:

Hex	Family	Name	Chroma
DFD9CA	yellow	lightgray	8.1
6284B2	blue-violet	grayish purple	28.0

B) TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.181
Mean Local Roughness	0.007
Roughness Uniformity	0.018
Edge Density	0.009
Mean Gradient Magnitude	0.049
Gradient Variance	0.027
Gradient Smoothness	0.0
Directional Coherence	0.217
Pattern Complexity	0.099
Pattern Repetition	1.0
Detail Frequency Ratio	0.612
Spatial Variation	0.123
Texture Consistency	0.417

C) BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.434
Brightness Variance	0.181
Brightness Uniformity	0.583
Brightness Skewness	0.326
Brightness Entropy	6.834
Rms Contrast	0.181
Michelson Contrast	1.0
Weber Contrast	0.715
Mean Local Contrast	0.007
Contrast Uniformity	0.0
Dynamic Range	1.0
Effective Dynamic Range	0.639
Shadow Percentage	29.601
Midtone Percentage	61.742
Highlight Percentage	8.656
Shadow Clipping	0.0
Highlight Clipping	0.0
Tonal Balance	0.0
Fine Contrast	0.004
Medium Contrast	0.009
Coarse Contrast	None
Multiscale Contrast Ratio	1.0
Edge Contrast	0.049
Contrast Clustering	0.583

D) SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.793
Color Clustering	0.571
Color Transition Smoothness	0.861
Transition Uniformity	0.818
Sharp Transition Ratio	0.1
Transition Directionality	0.242
Mean Saturation	0.375
Saturation Variance	0.037
Low Saturation Ratio	0.463
Medium Saturation Ratio	0.462
High Saturation Ratio	0.076
Saturation Clustering	1.0
Hue Concentration	0.788
Complementary Balance	0.065
Analogous Dominance	0.914
Temperature Bias	0.843

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 9 - Catalogue Raisonné. <https://arnaudquercy.art/en/catalogue-raisonne/AQC0704.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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