

Nanopublication – Computational Image Analysis – AQC0834

by Arnaud Quercy · F# Major – Research on Harmony – Variation 4 · 2025



CLAIM 1: COMPUTATIONAL IMAGE ANALYSIS – AQC0834

K-means clustering analysis [3] (10 colors) performed on artwork F# Major [1] – Research on Harmony – Variation 4 (AQC0834) [2] by Arnaud Quercy [2] on 2026-02-04. Documentation includes: color families, texture roughness, brightness distribution, spatial coherence.

CONTEXT

Analysis performed according to MMIDS-CMP-2025 [3] includes four metric categories: (1) Color distribution via k-means (10 colors), (2) Texture analysis using Haralick features, (3) Brightness and contrast measurements, (4) Spatial pattern characterization. Source image [5]: 2605x3473 pixels. Analysis date: 2026-02-04.

COLOR ANALYSIS

Rank	Color	Hex	%	Family	Name
1		B2C3B6	23.2	yellow-green	silver
2		D1CBC7	18.4	white	lightgray
3		A2ADA2	17.6	yellow-green	steel gray
4		909785	13.4	yellow-green	gray
5		747C6B	8.0	yellow-green	dimgray
6		E7E0DD	6.8	white	gainsboro
7		84749C	5.1	violet	dusty mauve
8		444444	2.8	gray	darkslategray
9		17181B	2.6	gray	black
10		574A81	2.2	violet	dusty mauve
11		D99C8F	0.3	red-orange	tan [Accent]
12		B491BD	0.3	red-violet	steel gray [Accent]
13		D6A999	0.3	orange	tan [Accent]

Color Families:

Family	%
yellow-green	62.2
white	25.1
violet	7.3
gray	5.5
red-orange	0.3
red-violet	0.3
orange	0.3

Accent Colors:

Hex	Family	Name	Chroma
D99C8F	red-orange	tan	26.4
B491BD	red-violet	steel gray	27.7
D6A999	orange	tan	20.5

TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.174
Mean Local Roughness	0.022
Roughness Uniformity	0.019
Edge Density	0.125
Mean Gradient Magnitude	0.194
Gradient Variance	0.05
Gradient Smoothness	0.0
Directional Coherence	0.003
Pattern Complexity	0.113
Pattern Repetition	1.0
Detail Frequency Ratio	0.62
Spatial Variation	0.096
Texture Consistency	0.747

BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.654
Brightness Variance	0.174
Brightness Uniformity	0.734
Brightness Skewness	-1.188
Brightness Entropy	7.286
Rms Contrast	0.174
Michelson Contrast	1.0
Weber Contrast	0.472
Mean Local Contrast	0.025
Contrast Uniformity	0.188
Dynamic Range	1.0
Effective Dynamic Range	0.569
Shadow Percentage	5.936
Midtone Percentage	36.587
Highlight Percentage	57.477
Shadow Clipping	0.009
Highlight Clipping	0.048
Tonal Balance	0.0
Fine Contrast	0.011
Medium Contrast	0.031
Coarse Contrast	0.048
Multiscale Contrast Ratio	0.237
Edge Contrast	0.194
Contrast Clustering	0.253

SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.691
Color Clustering	0.897
Color Transition Smoothness	0.518
Transition Uniformity	0.668
Sharp Transition Ratio	0.1
Transition Directionality	0.004
Mean Saturation	0.129
Saturation Variance	0.008
Low Saturation Ratio	0.947
Medium Saturation Ratio	0.051
High Saturation Ratio	0.002
Saturation Clustering	1.0
Hue Concentration	0.687
Complementary Balance	0.128
Analogous Dominance	0.801
Temperature Bias	-0.079

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 Multimodal Institute's computational imaging systems.

REFERENCES

[1] Arnaud Quercy (2025). F# Major - Research on Harmony - Variation 4 - Catalog raisonn  . <https://arnaudquercy.art/en/catalogue-raisonne/AQC0834.html>

[2] Quercy, A. (2025). F# Major - Research on Harmony - Variation 4 - Gallery. https://artquamanima.com/en/art-works/2025/01/f-major-research-on-harmony-variation-4_98k.html

[3] Quercy, A. (2025). Computational Image Analysis Standard - MMIDS-CMP-2025 <https://multimodal.institute/en/publications/2025/11/mmids-cmp-2025-computational-image-analysis-standard-dg1.html>

EPISTEMIC PROFILE

Claim type	computational analysis
Voice	third person
Epistemic status	empirical measurement
Methodology	computational analysis
Certainty	high

CHECKSUM (SHA-256)

15572bdf5c252650cbde5a1d1d3bb6aacec226efc740d866e141fa76be385154

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