AQC0835 | NAN-COL000120

Nanopublication — Computational Image Analysis - AQC0835

by Arnaud Quercy · F# Major - Research on Harmony - Variation 5 · 2025

CLAIM 1: COMPUTATIONAL IMAGE ANALYSIS - AQC0835

K-means clustering analysis [3] (10 colors) performed on artwork F# Major [1] - Research on Harmony - Variation 5 (AQC0835) [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]: 2498x3330 pixels. Analysis date: 2026-02-04.

COLOR ANALYSIS

Rank	Color	Hex	%	Family	Name
1		C4D0C1	24.4	yellow-green	silver
2		B6C4B2	21.4	yellow-green	steel gray
3		A9B59E	14.8	yellow-green	steel gray
4		97A38A	11.9	yellow-green	darkseagreen
5		D6DDD4	10.7	yellow-green	gainsboro
6		808E73	6.3	yellow-green	gray
7		687991	3.8	blue-violet	grayish purple
8		8F92AA	3.4	violet	lightslategray
9		1D2224	1.6	gray	very dark gray
10		51506E	1.6	violet	dusty mauve
11		E2AF91	0.3	orange	burlywood [Accent]
12		3A6C86	0.3	blue	darkslateblue [Accent]

Color Families:

Family	%
yellow-green	89.6
violet	5.0
blue-violet	3.8
gray	1.6
orange	0.3
blue	0.3

Accent Colors:

Hex	Family	Name	Chroma
E2AF91	orange	burlywood	26.6
3A6C86	blue	darkslateblue	21.0

TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.138
Mean Local Roughness	0.016
Roughness Uniformity	0.015
Edge Density	0.08
Mean Gradient Magnitude	0.144
Gradient Variance	0.029
Gradient Smoothness	0.0
Directional Coherence	0.015
Pattern Complexity	0.119
Pattern Repetition	1.0
Detail Frequency Ratio	0.612
Spatial Variation	0.08
Texture Consistency	0.521

BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.7
Brightness Variance	0.138
Brightness Uniformity	0.803
Brightness Skewness	-1.664
Brightness Entropy	6.855
Rms Contrast	0.138
Michelson Contrast	1.0
Weber Contrast	0.363
Mean Local Contrast	0.018
Contrast Uniformity	0.145
Dynamic Range	1.0
Effective Dynamic Range	0.4
Shadow Percentage	2.361
Midtone Percentage	28.607
Highlight Percentage	69.032
Shadow Clipping	0.003
Highlight Clipping	0.002
Tonal Balance	0.0
Fine Contrast	0.009
Medium Contrast	0.023
Coarse Contrast	0.037
Multiscale Contrast Ratio	0.24
Edge Contrast	0.144
Contrast Clustering	0.479

SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.705
Color Clustering	0.837
Color Transition Smoothness	0.645
Transition Uniformity	0.806
Sharp Transition Ratio	0.1
Transition Directionality	0.019
Mean Saturation	0.125
Saturation Variance	0.007
Low Saturation Ratio	0.953
Medium Saturation Ratio	0.046
High Saturation Ratio	0.001
Saturation Clustering	1.0
Hue Concentration	0.354
Complementary Balance	0.182
Analogous Dominance	0.547
Temperature Bias	-0.297

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 5 — Catalog raisonné. https://arnaudquercy.art/en/catalogue-raisonne/AQC0835.html

[2] Quercy, A. (2025). F# Major - Research on Harmony - Variation 5 - Gallery. https://artquamanima.com/en/artworks/2025/01/f-major-research-on-harmony-variation-5_98y.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

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