

Nanopublication — Computational Image Analysis - AQC0602

by Arnaud Quercy · F# minor - Research on Harmony · 2024

Claim 1: Computational Image Analysis - AQC0602

K-means clustering analysis [3] (10 colors) performed on artwork F# minor - Research [1] on Harmony (AQC0602) [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]: 2081x2775 pixels. Analysis date: 2026-02-04.

COLOR ANALYSIS

Rank	Color Hex	%	Family	Name
1		18.9	green	cadetblue
2		16.8	green	mediumaquamarine
3		15.0	green	teal
4		13.3	green	mediumseagreen
5		10.6	green	very dark gray
6		9.1	green	dimgray
7		6.7	green	skyblue
8		5.4	yellow-orange	burlywood
9		2.7	yellow-orange	darkgoldenrod
10		1.6	yellow-green	lightgray
11		0.3	red-orange	very dark gray [Accent]
12		0.3	orange	dark brown [Accent]
13		0.3	blue-violet	black [Accent]
14		0.3	yellow	dark brown [Accent]

Color Families:

Family	%
green	90.3
yellow-orange	8.1
yellow-green	1.6
red-orange	0.3
orange	0.3
blue-violet	0.3
yellow	0.3

Accent Colors:

Hex	Family	Name	Chroma
251106	red-orange	very dark gray	12.0
614726	orange	dark brown	25.0

Hex	Family	Name	Chroma
000710	blue-violet	black	5.0
696247	yellow	dark brown	16.1

TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.181
Mean Local Roughness	0.026
Roughness Uniformity	0.021
Edge Density	0.141
Mean Gradient Magnitude	0.208
Gradient Variance	0.055
Gradient Smoothness	0.0
Directional Coherence	0.016
Pattern Complexity	0.142
Pattern Repetition	1.0
Detail Frequency Ratio	0.651
Spatial Variation	0.124
Texture Consistency	0.436

BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.511
Brightness Variance	0.181
Brightness Uniformity	0.646
Brightness Skewness	-0.606
Brightness Entropy	7.317
Rms Contrast	0.181
Michelson Contrast	1.0
Weber Contrast	0.713
Mean Local Contrast	0.029
Contrast Uniformity	0.245
Dynamic Range	1.0
Effective Dynamic Range	0.639
Shadow Percentage	12.136
Midtone Percentage	69.871
Highlight Percentage	17.994
Shadow Clipping	0.013
Highlight Clipping	0.0
Tonal Balance	0.048
Fine Contrast	0.014
Medium Contrast	0.036
Coarse Contrast	0.048
Multiscale Contrast Ratio	0.286
Edge Contrast	0.208
Contrast Clustering	0.564

SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.77
Color Clustering	0.496
Color Transition Smoothness	0.49
Transition Uniformity	0.656
Sharp Transition Ratio	0.1
Transition Directionality	0.019
Mean Saturation	0.561
Saturation Variance	0.027
Low Saturation Ratio	0.043
Medium Saturation Ratio	0.75
High Saturation Ratio	0.207
Saturation Clustering	0.999
Hue Concentration	0.863
Complementary Balance	0.003
Analogous Dominance	0.913
Temperature Bias	-0.83

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 (2024). F# minor - Research on Harmony — Catalog raisonné. <https://arnaudquercy.art/en/catalogue-raisonne/AQC0602.html>
- [2] Quercy, A. (2024). F# minor - Research on Harmony - Gallery. https://artquamanima.com/en/artworks/2024/01/f-minor-research-on-harmony_6qc.html
- [3] Quercy, A. (2025). Computational Image Analysis Standard - MMIDS-CMP-2025 <https://multimodal.institute/en/publications/2025/10/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)

d6f0f6a6139114c10c1847e3ecf10ac9047ac8b42b2e1802243b2b36deada3eb

Artist	Arnaud Quercy
Date	2024
Collection	Synesthetic Explorations
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