Nanopublication — Computational Image Analysis - AQC0836

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

Claim 1: Computational Image Analysis - AQC0836

> K-means clustering analysis [3] (10 colors) performed on artwork F# Minor [1] - Research on Harmony - Variation 5 (AQC0836) [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]: 2410x3214 pixels. Analysis date: 2026-02-04.

COLOR ANALYSIS

Rank	Color	Hex	%	Family	Name
1		AABCAC	16.7	yellow-green	steel gray
2		9AAA97	15.1	yellow-green	darkseagreen
3		869383	15.0	yellow-green	gray
4		CECABE	12.2	yellow	silver
5		707E6F	11.4	yellow-green	dimgray
6		E4DBD0	9.8	yellow-orange	gainsboro
7		566454	7.3	yellow-green	dimgrey
8		101111	5.4	black	black
9		9695AE	4.0	violet	steel gray
10		313431	3.1	gray	darkslategray
11		DEA994	0.3	orange	tan [Accent]

Color Families:

Family	%
yellow-green	65.4
yellow	12.2
yellow-orange	9.8
black	5.4
violet	4.0
gray	3.1
orange	0.3

Accent Colors:

Hex	Family	Name	Chroma
DEA994	orange	tan	24.8

TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.204
Mean Local Roughness	0.025
Roughness Uniformity	0.019
Edge Density	0.155
Mean Gradient Magnitude	0.213
Gradient Variance	0.052
Gradient Smoothness	0.0
Directional Coherence	0.01
Pattern Complexity	0.126
Pattern Repetition	1.0
Detail Frequency Ratio	0.61
Spatial Variation	0.102
Texture Consistency	0.661

BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.595
Brightness Variance	0.204
Brightness Uniformity	0.658
Brightness Skewness	-0.936
Brightness Entropy	7.489
Rms Contrast	0.204
Michelson Contrast	1.0
Weber Contrast	0.604
Mean Local Contrast	0.027
Contrast Uniformity	0.26
Dynamic Range	1.0
Effective Dynamic Range	0.741
Shadow Percentage	10.027
Midtone Percentage	48.248
Highlight Percentage	41.725
Shadow Clipping	0.013
Highlight Clipping	0.008
Tonal Balance	0.179
Fine Contrast	0.014
Medium Contrast	0.034
Coarse Contrast	0.054
Multiscale Contrast Ratio	0.256
Edge Contrast	0.213
Contrast Clustering	0.339

SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.652
Color Clustering	0.946
Color Transition Smoothness	0.462
Transition Uniformity	0.653
Sharp Transition Ratio	0.1

Metric	Value
Transition Directionality	0.014
Mean Saturation	0.135
Saturation Variance	0.005
Low Saturation Ratio	0.983
Medium Saturation Ratio	0.015
High Saturation Ratio	0.002
Saturation Clustering	0.999
Hue Concentration	0.449
Complementary Balance	0.166
Analogous Dominance	0.549
Temperature Bias	-0.29

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# Minor - Research on Harmony - Variation 5 — Catalog raisonné. https://arnaudquercy.art/en/catalogue-raisonne/AQC0836.html

[2] Quercy, A. (2025). Untitled - Gallery. https://artquamanima.com/en/artworks/2025/01/f-minor-research-on-harmony-variation-5_99c.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)

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c4ed39ed6e598b3bbb7f4e46e52a0434fae92a3fcd011e25560e58b-
f58e417db
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Artist	Arnaud Quercy
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