AQC0911

Nanopublication — Computational Image Analysis - AQC0911

by Arnaud Quercy · F#Minor - Research on Harmony - Variations 8 · 2025

Claim 1: Computational Image Analysis - AQC0911

> K-means clustering analysis [3] (10 colors) performed on artwork F#Minor [1] - Research on Harmony - Variations 8 (AQC0911) [2] by Arnaud Quercy [2] on 2025-12-11. 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]: 1990x1990 pixels. Analysis date: 2025-12-11.

COLOR ANALYSIS

Rank	Color	Hex	%	Family	Name
1		E6C387	16.9	yellow-orange	burlywood
2		D7AD6E	15.7	yellow-orange	ochre
3		C88E50	14.2	orange	peru
4		68E6E3	13.8	green	aquamarine
5		4DAFDC	10.4	blue	mediumturquoise
6		4C534B	9.9	yellow-green	darkslategray
7		6FBA72	8.0	yellow-green	darkseagreen
8		617269	6.8	yellow-green	dimgray
9		EEEDE4	2.6	white	white
10		1F201B	1.6	gray	very dark gray
11		90B7BE	0.3	blue-green	steel gray [Accent]
12		E0D6AE	0.3	yellow	wheat [Accent]

Color Families:

Family	%
yellow-orange	32.6
yellow-green	24.8
orange	14.2
green	13.8
blue	10.4
white	2.6
gray	1.6
blue-green	0.3
yellow	0.3

Accent Colors:

Hex	Family	Name	Chroma
90B7BE	blue-green	steel gray	13.6
E0D6AE	yellow	wheat	21.2

TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.167
Mean Local Roughness	0.028
Roughness Uniformity	0.029
Edge Density	0.128
Mean Gradient Magnitude	0.214
Gradient Variance	0.088
Gradient Smoothness	0.0
Directional Coherence	0.013
Pattern Complexity	0.115
Pattern Repetition	1.0
Detail Frequency Ratio	0.652
Spatial Variation	0.099
Texture Consistency	0.606

BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.629
Brightness Variance	0.167
Brightness Uniformity	0.734
Brightness Skewness	-0.934
Brightness Entropy	7.093
Rms Contrast	0.167
Michelson Contrast	1.0
Weber Contrast	0.559
Mean Local Contrast	0.031
Contrast Uniformity	0.012
Dynamic Range	1.0
Effective Dynamic Range	0.518
Shadow Percentage	8.679
Midtone Percentage	42.942
Highlight Percentage	48.379
Shadow Clipping	0.007
Highlight Clipping	0.027
Tonal Balance	0.0
Fine Contrast	0.015
Medium Contrast	0.038
Coarse Contrast	0.049
Multiscale Contrast Ratio	0.315
Edge Contrast	0.214
Contrast Clustering	0.394

SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.762
Color Clustering	0.515

Metric	Value
Color Transition Smoothness	0.464
Transition Uniformity	0.397
Sharp Transition Ratio	0.1
Transition Directionality	0.015
Mean Saturation	0.442
Saturation Variance	0.033
Low Saturation Ratio	0.209
Medium Saturation Ratio	0.776
High Saturation Ratio	0.016
Saturation Clustering	0.998
Hue Concentration	0.396
Complementary Balance	0.056
Analogous Dominance	0.582
Temperature Bias	0.179

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 - Variations 8 — Catalog raisonné. https://arnaudquercy.art/en/catalogue-raisonne/AQC0911.html

[2] Quercy, A. (2025). F#Minor - Research on Harmony - Variations 8 - Gallery. https://artquamanima.com/en/artworks/2025/11/fminor-research-on-harmony-variations-8_idy.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)

91e1a4043307d964cee3377b77cfe4a0545bc5ae4bc447c7ef30bf-ba802886ef

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