

Nanopublication — Computational Image Analysis - AQC0886

by Arnaud Quercy · Ab Major - Research on Harmony - Variations 12 · 2025














Claim 1: Computational Image Analysis - AQC0886

K-means clustering analysis [3] (10 colors) performed on artwork Ab Major [1] - Research on Harmony - Variations 12 (AQC0886) [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]: 1877x2815 pixels. Analysis date: 2025-12-11.

COLOR ANALYSIS

Rank	Color Hex	%	Family	Name
1		70879F	21.8 blue-violet	grayish purple
2		A1A2A7	12.0 gray	steel gray
3		694D3A	11.4 orange	dark brown
4		696B7A	10.7 violet	dusty mauve
5		F3CC9C	10.6 yellow-orange	navajowhite
6		DBAC83	10.2 orange	burlywood
7		80A8C2	9.3 blue	steel gray
8		E84A1A	5.6 red-orange	orangered
9		B5C0CB	5.1 blue	silver
10		2E1911	3.4 orange	very dark gray
11		FEF7B4	0.3 yellow	moccasin [Accent]
12		AB7899	0.3 red-violet	dusty mauve [Accent]
13		976972	0.3 red	gray [Accent]

Color Families:

Family	%
orange	25.0
blue-violet	21.8
blue	14.4
gray	12.0
violet	10.7
yellow-orange	10.6
red-orange	5.6
yellow	0.3
red-violet	0.3
red	0.3

Accent Colors:

Hex Family Name Chroma

FEF7B4	yellow	moccasin	34.0
AB7899	red-violet	dusty mauve	26.9
976972	red	gray	20.1

TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.176
Mean Local Roughness	0.04
Roughness Uniformity	0.032
Edge Density	0.223
Mean Gradient Magnitude	0.324
Gradient Variance	0.123
Gradient Smoothness	0.0
Directional Coherence	0.005
Pattern Complexity	0.115
Pattern Repetition	1.0
Detail Frequency Ratio	0.649
Spatial Variation	0.083
Texture Consistency	0.763

BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.558
Brightness Variance	0.176
Brightness Uniformity	0.684
Brightness Skewness	-0.338
Brightness Entropy	7.469
Rms Contrast	0.176
Michelson Contrast	1.0
Weber Contrast	0.575
Mean Local Contrast	0.044
Contrast Uniformity	0.248
Dynamic Range	1.0
Effective Dynamic Range	0.557
Shadow Percentage	9.729
Midtone Percentage	60.293
Highlight Percentage	29.978
Shadow Clipping	0.006
Highlight Clipping	0.004
Tonal Balance	0.181
Fine Contrast	0.022
Medium Contrast	0.054
Coarse Contrast	0.078
Multiscale Contrast Ratio	0.276
Edge Contrast	0.324
Contrast Clustering	0.237

SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.697
Color Clustering	0.4
Color Transition Smoothness	0.179
Transition Uniformity	0.179
Sharp Transition Ratio	0.1
Transition Directionality	0.006
Mean Saturation	0.344
Saturation Variance	0.045
Low Saturation Ratio	0.393
Medium Saturation Ratio	0.531
High Saturation Ratio	0.077
Saturation Clustering	0.998
Hue Concentration	0.108
Complementary Balance	0.293
Analogous Dominance	0.534
Temperature Bias	0.114

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). Ab Major - Research on Harmony - Variations 12 — Catalogue raisonné. <https://arnaudquercy.art/en/catalogue-raisonne/AQC0886.html>
- [2] Quercy, A. (2025). Ab Major - Research on Harmony - Variations 12 - Gallery. https://artquamanima.com/en/artworks/2025/11/ab-major-research-on-harmony-variations-12_i5a.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)

71c0292cd719d7030def9257294f -
b255a1af287d16b2926362f4d8c9d722531d

Artist	Arnaud Quercy
Date	2025
Collection	Synesthetic Explorations
Certificate	20251123-0069
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