

Nanopublication — Computational Image Analysis - AQC0517

by Arnaud Quercy · Portrait with cat · 2024

Claim 1: Computational Image Analysis - AQC0517

K-means clustering analysis [3] (10 colors) performed on artwork Portrait [1] with cat (AQC0517) [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]: 1440x1636 pixels. Analysis date: 2026-02-04.

COLOR ANALYSIS

Rank	Color Hex	%	Family	Name
1	1C1F1A	14.1	gray	very dark gray
2	333C39	13.3	gray	darkslategray
3	D79349	12.2	orange	peru
4	B4583A	11.9	red-orange	burnt sienna
5	D6B892	11.8	yellow-orange	tan
6	5B5536	10.2	yellow	dark brown
7	5A7269	8.7	green	dimgray
8	8F2B1E	6.6	red-orange	brown
9	88A59C	5.9	green	darkseagreen
10	E0DAC8	5.5	yellow	lightgray
11	50A343	0.3	yellow-green	seagreen [Accent]
12	59AFB5	0.3	blue-green	cadetblue [Accent]
13	5D90A2	0.3	blue	cadetblue [Accent]
14	AF8D90	0.3	red	rosybrown [Accent]
15	2F4C64	0.3	blue-violet	grayish purple [Accent]

Color Families:

Family	%
gray	27.4
red-orange	18.5
yellow	15.7
green	14.5
orange	12.2
yellow-orange	11.8
yellow-green	0.3
blue-green	0.3
blue	0.3
red	0.3

Family	%
blue-violet	0.3

Accent Colors:

Hex	Family	Name	Chroma
50A343	yellow-green	seagreen	60.1
59AFB5	blue-green	cadetblue	26.4
5D90A2	blue	cadetblue	19.2
AF8D90	red	rosybrown	13.3
2F4C64	blue-violet	grayish purple	17.3

TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.237
Mean Local Roughness	0.093
Roughness Uniformity	0.043
Edge Density	0.321
Mean Gradient Magnitude	0.512
Gradient Variance	0.155
Gradient Smoothness	0.23
Directional Coherence	0.005
Pattern Complexity	0.129
Pattern Repetition	1.0
Detail Frequency Ratio	0.688
Spatial Variation	0.105
Texture Consistency	0.854

BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.434
Brightness Variance	0.237
Brightness Uniformity	0.453
Brightness Skewness	0.232
Brightness Entropy	7.831
Rms Contrast	0.237
Michelson Contrast	1.0
Weber Contrast	0.826
Mean Local Contrast	0.07
Contrast Uniformity	0.547
Dynamic Range	1.0
Effective Dynamic Range	0.749
Shadow Percentage	39.03
Midtone Percentage	40.11
Highlight Percentage	20.86
Shadow Clipping	0.152
Highlight Clipping	0.077
Tonal Balance	0.55
Fine Contrast	0.075

Metric	Value
Medium Contrast	0.086
Coarse Contrast	0.096
Multiscale Contrast Ratio	0.779
Edge Contrast	0.512
Contrast Clustering	0.146

SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.66
Color Clustering	0.657
Color Transition Smoothness	0.0
Transition Uniformity	0.0
Sharp Transition Ratio	0.1
Transition Directionality	0.008
Mean Saturation	0.468
Saturation Variance	0.064
Low Saturation Ratio	0.314
Medium Saturation Ratio	0.491
High Saturation Ratio	0.195
Saturation Clustering	0.98
Hue Concentration	0.485
Complementary Balance	0.184
Analogous Dominance	0.669
Temperature Bias	0.383

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). Portrait with cat — Catalog raisonné. <https://arnaudquercy.art/en/catalogue-raisonne/AQC0517.html>
- [2] Quercy, A. (2025). Untitled - Gallery. https://artquamanima.com/en/artworks/2024/01/portrait-with-cat_5ta.html
- [3] Quercy, A. (2025). Computational Image Analysis Standard - MMIDS-CMP-2025 h <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)

6269134bae0325c19a16a8bf1c741b89e1d4ddc63a150ecf568207e-f16b9e173

Artist	Arnaud Quercy
Date	2024
Collection	Untamed Creations
Certificate	20240220-0013
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Version	1
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