

Nanopublication — Computational Image Analysis - AQC0914

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

Claim 1: Computational Image Analysis - AQC0914

K-means clustering analysis [3] (10 colors) performed on artwork F# Major [1] - Research on Harmony - Variations 8 (AQC0914) [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]: 1968x1968 pixels. Analysis date: 2025-12-11.

COLOR ANALYSIS

Rank	Color Hex	%	Family	Name
1	C195C9	17.2	red-violet	plum
2	AB7EB4	14.4	red-violet	rosybrown
3	E0BCE2	12.5	red-violet	thistle
4	62665F	12.2	yellow-green	dimgray
5	6ADFD8	12.2	green	aquamarine
6	B5BEAB	11.3	yellow-green	silver
7	5F96D6	7.5	blue-violet	cornflowerblue
8	7E847F	7.3	gray	gray
9	EFE7DD	3.4	yellow-orange	white
10	222129	1.9	violet	very dark gray
11	97E4E5	0.3	blue-green	lightblue [Accent]
12	97CADB	0.3	blue	skyblue [Accent]

Color Families:

Family	%
red-violet	44.1
yellow-green	23.5
green	12.2
blue-violet	7.5
gray	7.3
yellow-orange	3.4
violet	1.9
blue-green	0.3
blue	0.3

Accent Colors:

Hex	Family	Name	Chroma
97E4E5	blue-green	lightblue	24.4
97CADB	blue	skyblue	18.4

TEXTURE ANALYSIS

Metric	Value
Global Roughness	0.157
Mean Local Roughness	0.033
Roughness Uniformity	0.033
Edge Density	0.185
Mean Gradient Magnitude	0.262
Gradient Variance	0.115
Gradient Smoothness	0.0
Directional Coherence	0.028
Pattern Complexity	0.128
Pattern Repetition	1.0
Detail Frequency Ratio	0.654
Spatial Variation	0.073
Texture Consistency	0.755

BRIGHTNESS & CONTRAST ANALYSIS

Metric	Value
Mean Brightness	0.629
Brightness Variance	0.157
Brightness Uniformity	0.751
Brightness Skewness	-0.731
Brightness Entropy	7.205
Rms Contrast	0.157
Michelson Contrast	1.0
Weber Contrast	0.488
Mean Local Contrast	0.036
Contrast Uniformity	0.066
Dynamic Range	1.0
Effective Dynamic Range	0.471
Shadow Percentage	2.613
Midtone Percentage	50.981
Highlight Percentage	46.406
Shadow Clipping	0.013
Highlight Clipping	0.002
Tonal Balance	0.0
Fine Contrast	0.018
Medium Contrast	0.044
Coarse Contrast	0.062
Multiscale Contrast Ratio	0.297
Edge Contrast	0.262
Contrast Clustering	0.245

SPATIAL DISTRIBUTION ANALYSIS

Metric	Value
Spatial Coherence	0.697
Color Clustering	0.569

Metric	Value
Color Transition Smoothness	0.344
Transition Uniformity	0.245
Sharp Transition Ratio	0.1
Transition Directionality	0.035
Mean Saturation	0.26
Saturation Variance	0.029
Low Saturation Ratio	0.679
Medium Saturation Ratio	0.315
High Saturation Ratio	0.006
Saturation Clustering	0.999
Hue Concentration	0.645
Complementary Balance	0.004
Analogous Dominance	0.617
Temperature Bias	-0.335

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# Major - Research on Harmony - Variations 8 — Catalog raisonné. <https://arnaudquercy.art/en/catalogue-raisonne/AQC0914.html>
- [2] Quercy, A. (2025). F# Major - Research on Harmony - Variations 8 - Gallery. https://artquamanima.com/en/artworks/2025/11/f-major-research-on-harmony-variations-8_if1.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)

da6508ad519a152d5641a3056e041ca75c6b27895a8bb622b-ba6823aa61f3e96

Artist	Arnaud Quercy
Date	2025
Collection	Synesthetic Explorations
Certificate	20251123-0124
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