Artwork Image Retrieval
Stéphanie Zirnhelt, Toby P. Breckon

School of Engineering
Cranfield University

Weighted Colour and Texture Similarity

Issue: Realistic retrieval of Artwork remains difficult due to its subjective nature.

Approach: Artwork retrieval using texture and colour classification adapted to artwork.

Colour Similarity
Multiple colour spaces (RGB, HSV, Lab) and distance metric combined to extract the optimum differentiator colour characteristics of artwork and compare these between any two artwork images.

Texture Similarity
Here we use the combination of two texture discriminators, the Grey Level Co-occurrence Matrix approach and Laws Texture energy method to withdraw the textural components of a paintings in terms of “busyness” and orientation.

Results of Artwork Retrieval

Source Ardon
1st result Matisse
2nd result Shahn
3rd result Clemente
4th result David

Source Van Gogh
1st result Van Gogh
2nd result Cezanne
3rd result Van Gogh
4th result Van Gogh

Source Posada
1st result Sohlberg
2nd result Rousseau
3rd result Hals
4th result Hausmann

Future Work & Conclusions

This approach to colour and texture retrieval gives significant results. A further step would be to investigate primary shape similarities and art specific textures.