CoRe: Color Regression for Multicolor Fashion Garments

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MLIA heuritech

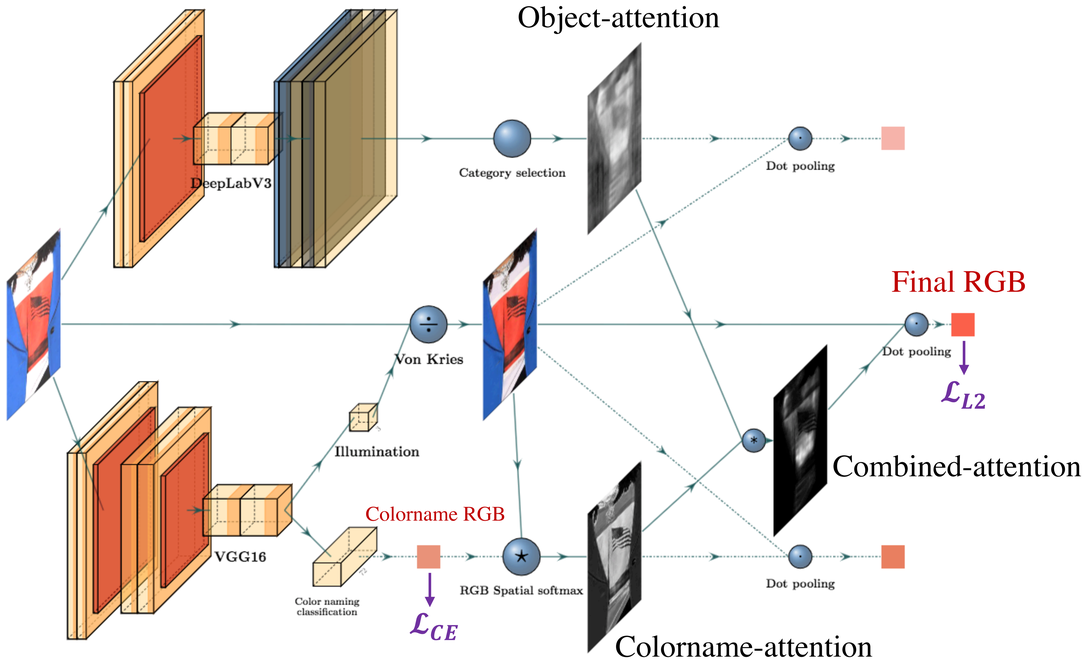
1 Goal: multicolor regression

Color detection: because color is a key attribute of fashion garments.

Multicolor items: because knowing which colors are associated is more interesting than detecting only the main color.

Regression challenge: because continuous values are richer than discrete predefined color names (which can become outdated).

2 New two-stage architecture and training procedure



1. Classification:
Colorname RGB: standard classification.

Illumination: fixing the illumination bias with Von Kries formula.

2. **Regression with 3 attention maps**:
Colorname-attention: detect pixels close to the classified color name.

Object-attention: detect pixels inside the clothing (to remove background).

Combined-attention: combine the 2 previous attentions. Once multiplied with the illumination-fixed image, it provides our best prediction.

3 Evaluation in regression

Method	Color-attention	Object-attention	Illumination	Main color	All colors
Unsupervised K-means Clustering				47	19
Classification approach				51	34
Ours	✓			48	35
		✓		50	-
	✓	✓		62	46
	✓	✓	✓	**73**	**54**

Dataset: 30,269 fashion garments (coats, dresses, pants, etc) with multiple colors.

Metric: % of predictions closer than 10 to the true RGBs wrt the *deltaE ciede2000.*

Results: all components are useful.

4 Qualitative results