DEEP LEARNING FOR ART CHARACTERIZATION

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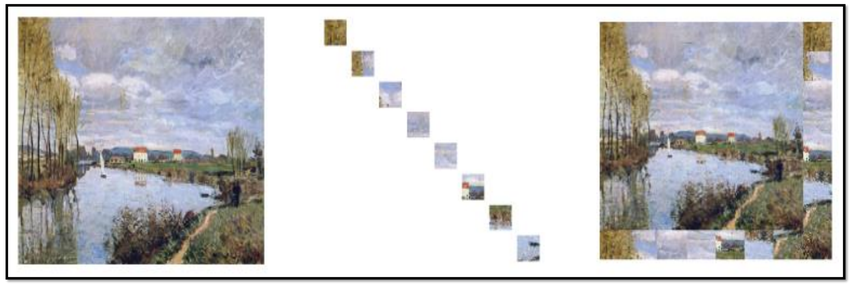
Ideology

With the digitization of art museums, it has become imperative to devise tools that can automatically classify artists based on paintings, to help visitors, buyers and museum curators gain more information effortlessly.

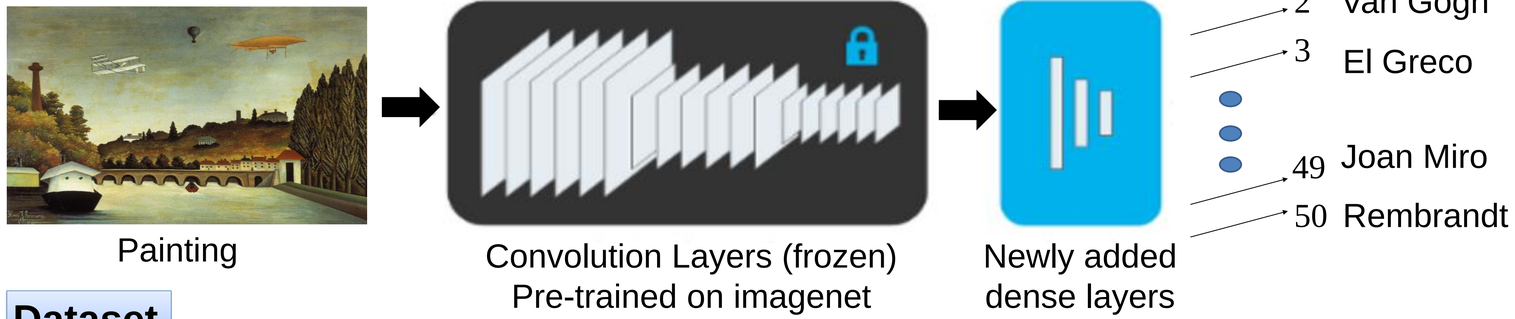
Data Augmentation

Diagonal Crop



Step Crop

Transfer Learning



Painting

Convolution Layers (frozen)
Pre-trained on imagenet

Newly added
dense layers

Dataset

Best Artworks of All Time → Kaggle
Data Augmented (All 3) → Train Set – 20205, Validation Set – 5133

Results

Experiments	Augmentation Technique	Model	Validation Accuracy (%)
Transfer Learning + Data Augmentation	Horizontal Flip	ResNet 101	69.70
	Diagonal Crop		74.55
	Step Crop		73.08
	Horizontal Flip + Step Crop + Diagonal Crop		**76.70**
	Horizontal Flip	EfficientNet B5	71.83
	Diagonal Crop		71.00
	Step Crop		72.07
	Horizontal Flip + Step Crop + Diagonal Crop		**74.76**