

Neural Style Transfer: A Review

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INTRODUCTION



NST
TECHNIQUES



APPLICATIONS



DEMO

Introduction



Creating artistic imagery by separating and recombining image content and style.



Process of using CNNs to render a content image in different styles is referred to as Neural Style Transfer (NST).



Input Content

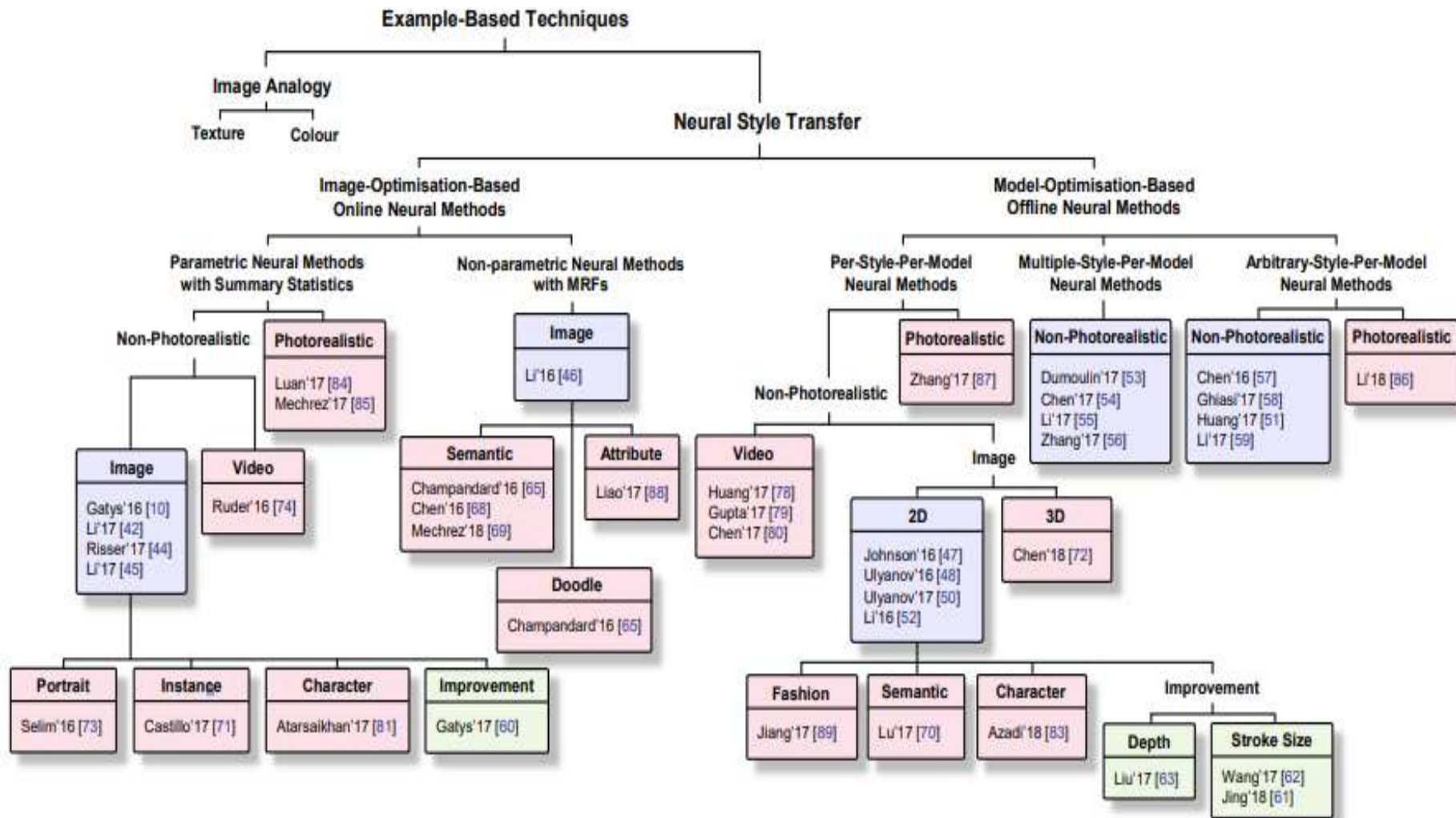


Input Style

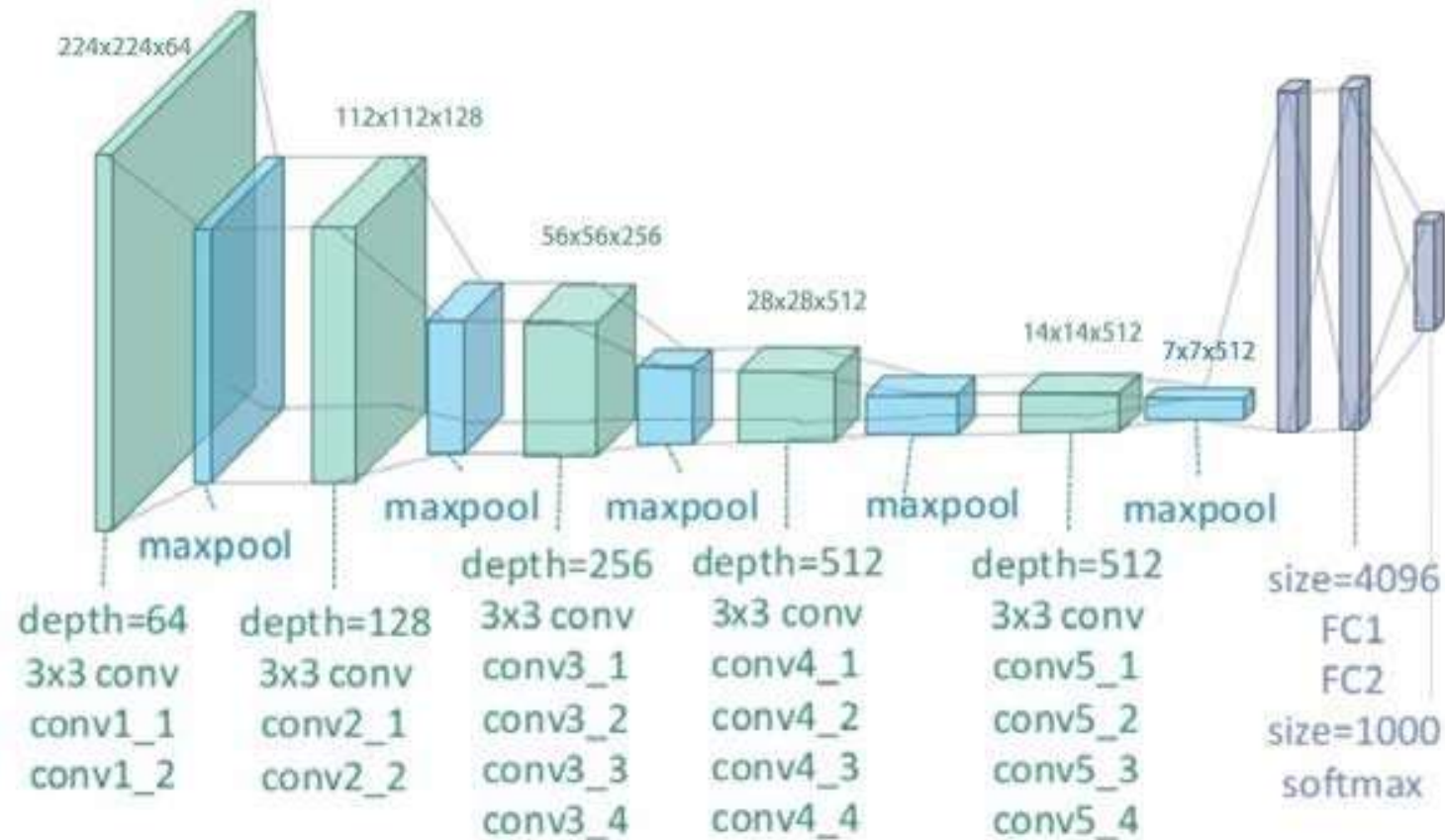
Neural Style Transfer



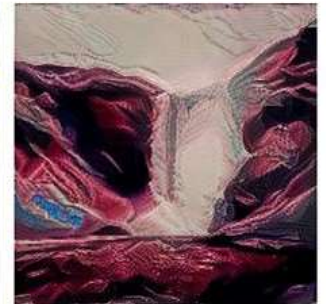
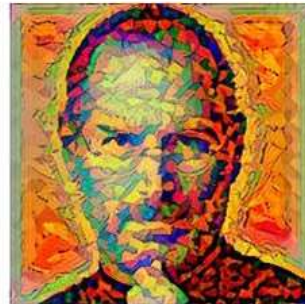
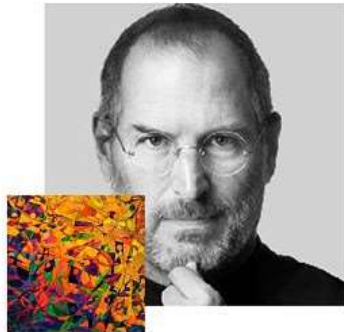
Output



Convolutional Neural Network(CNN)



NST examples:



Evaluation criteria's:



STYLISATION
SPEED



TRAINING TIME



LOSS
COMPARISON



STYLE
SCALABILITY

Pros & Cons:

Types	Methods			
		E	AS	LF
IOB-NST	Gatys et al. [4]	×	✓	✓
PSPM-MOB-NST	Ulyanov et al. [47]	✓	×	×
	Johnson et al. [50]	✓	×	×
	Li and Wand [52]	✓	×	×
MSPM-MOB-NST	Dumoulin et al. [53]	✓	×	×
	Chen et al. [54]	✓	×	×
	Li et al. [55]	✓	×	×
	Zhang and Dana [56]	✓	×	×
ASPM-MOB-NST	Chen and Schmidt [57]	✓	✓	×
	Ghiasi et al. [58]	✓	✓	×
	Huang and Belongie [51]	✓	✓	×
	Li et al. [59]	✓	✓	✓

Code Links:



[COLAB](#)



[GITHUB](#)

Applications:

Social Communication:

- Prisma
- Ostagram
- Pictory
- Caffé2

Entertainment Applications



Thank You



Any Questions?