



CoreML: Everyone's an Artist

Building a Neural Style Transfer app with CoreML

What is Neural Style Transfer?

(Or NST)



+



Obtaining a CoreMLNST model

2 solutions

Online*

- Github, modelzoo.co...

DIY

- GPU + some ♥ for Python
- Training : Turi Create, Tensorflow, Pytorch...
- Misc : ONNX, coremltools

*check the licence!

Importing a CoreML model

Easy peasy



Drag & drop



Using a CoreML model

Easy peasy

Specific API for CoreML

1. Convert input to CoreML format (ML...)
2. Make prediction
3. Convert output to target format

Optimizations

- Threading
- Offload memory to disk

Livcoding

Demo for a Neural Style Transfer app

One more thing

Quantization



Resources

Going further

- NST demo sources (github.com/kirualex/NSTDemo)
- Building a Neural Style Transfer app on iOS (bit.ly/building_nst_ios)
- Using Quantization in iOS 12 (bit.ly/quantization_ios)

Apple

- What's new in CoreML part 1 & 2
- A guide to Turi Create

Other

- Jcjohnson (github.com/jcjohnson/fast-neural-style)

Thank you



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