CoreML : Everyone's an Artist

Building a Neural Style Transfer app with CoreML

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Neural Style Transfer (or NST)

Getting an NST CoreML model

Online*

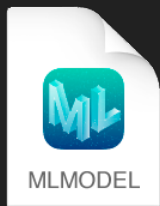- Github, modelzoo.co…

DIY

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

*check the licence!

Importing a CoreML model (1/2)

Drag & drop

Importing a CoreML model (2/2)

Using an NST CoreML model (1/2)

Handling input/output

- UIImage ⟷ CVPixelBuffer
- Resize

Using an NST CoreML model (2/2)

Optimizations

- Threading
- Offload memory to disk

Livecoding

One more thing

Resources

This Talk

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

Apple

- What's new in CoreML part 1 & 2 (sessions 708 & 709)
- A guide to Turi Create   (session 712)

Other

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

Thank you

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