CS 523: Multimedia Systems

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creativecoding.evl.uic.edu/courses/cs523
Graphcore “Brain scans”
http://www.wired.co.uk/gallery/machine-learning-graphcore-pictures-inside-ai

- Graphs are colored to highlight the density of computation

- Most images represent training or classification using Microsoft’s ResNet
NN used to classify LIGO data
Anton Woll Söder, “Reaction”

AI Duet
https://aiexperiments.withgoogle.com/ai-duet
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End to End Learning for Self-Driving Cars, Bojarski, et al. 2016
Neural Network Learns to Select Potential Anticancer Drugs


“By using Generative Adversarial Networks (GANs) developed and trained to "invent" new molecular structures, there may soon be a dramatic reduction in the time and cost of searching for substances with potential medicinal properties.

GANs are very much the frontline of neuroscience. It is quite clear that they can be used for a much broader variety of tasks than the simple generation of images and music. We tried out this approach with bioinformatics and obtained great results”
Automatic Handgun Detection, Olmos, et al. 2017
https://arxiv.org/abs/1702.05147
https://arxiv.org/abs/1608.05339
Audio Super Resolution, Kuleshov, et al. 2017
https://openreview.net/forum?id=S1gNakBFx&noteId=S1gNakBFx
Visual Similarity
https://artsexperiments.withgoogle.com/xdegrees
Color Palette GAN
http://colormind.io/
Deep Kern
https://patrickgadd.github.io/feel-the-kern/

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Kerning applied
Visual Discovery at Pinterest
Zhai et al., 2017

https://arxiv.org/abs/1702.04680
Next Week

- Project 2 presentations!
- Project documentation:
  GitHub, video, installation instructions, etc.