



Real-Time Sensing and Artificial Intelligence for Live Performative Arts

Live Performers Meeting, March 2024, MHamid El Ghizlane, Morocco.

March 7, 2024

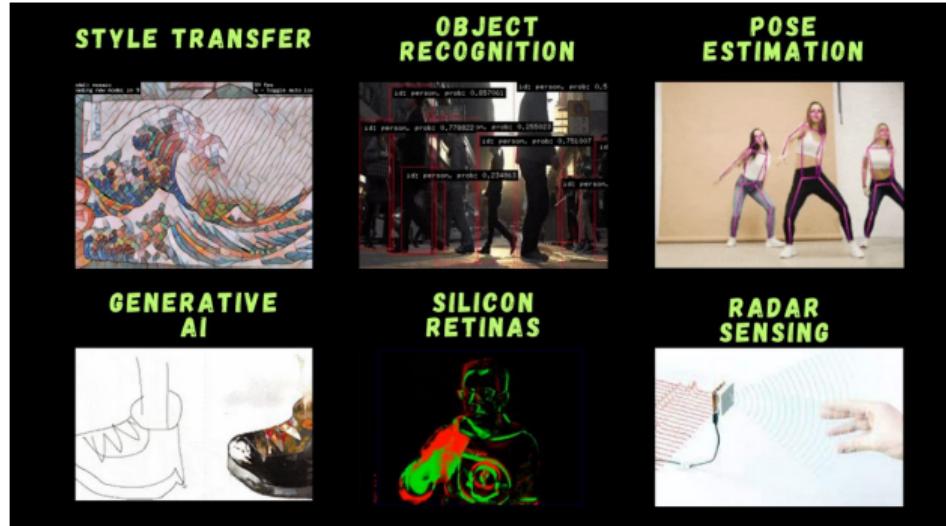
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Federico Corradi

Real-Time Sensing and Artificial Intelligence for Live Performative Arts

Date	Lectures	Notes
Session 1	Creative coding, OpenFrameworks, the basic of programming, interactivity.	OFX docs, slides, code examples
Session 2	OpenFrameworks, creating add-ons in OFX, and sensors.	OFX docs, slides, OFX addons
Session 3	Neural networks basics, working with data, neural networks in OFX.	OFX docs, slides, code examples
Session 4	Using Neural Networks for data analysis, interpretation, and augmentation.	NN models, slides, OFX addons



General Summary

Lecture 1

- Creative Coding
- OpenFrameworks
 - Project basics
 - Coding basics
- Computer vision

Lecture 2

- Use addons in OF
- Sensor and Interfaces
 - Kinect
 - Event-Based Camera
 - MIDI

Lecture 3

- Neural Networks 101
- Neural Networks in OF
 - Use NN in OF
 - Gesture recognition
 - ofxTensorflow 2

Project Idea

Lecture 1

- Creative Coding
- **OpenFrameworks**
 - Project basics
 - Coding basics
- Computer vision

Lecture 2

- Use addons in OF
- Sensor and Interfaces
 - Kinect
 - Event-Based Camera
 - **MIDI**

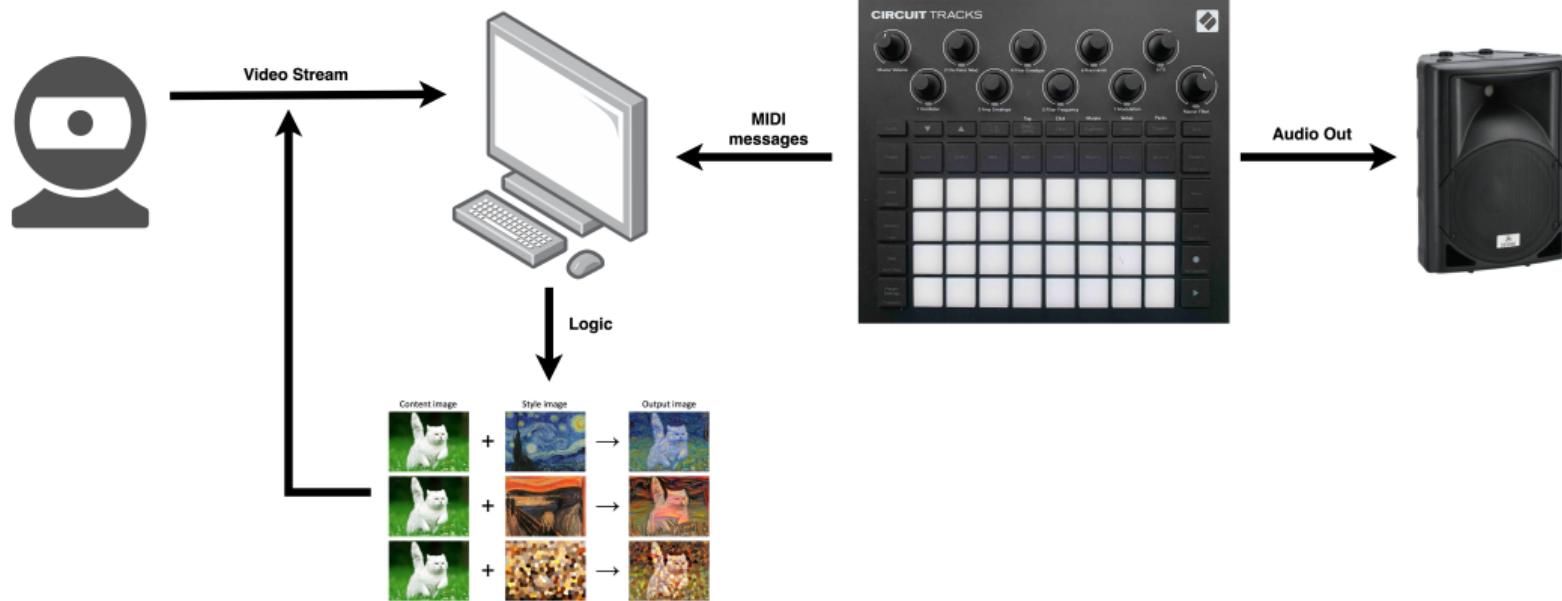
Lecture 3

- Neural Networks 101
- Neural Networks in OF
 - Use NN in OF
 - Gesture recognition
 - **ofxTensorflow 2**

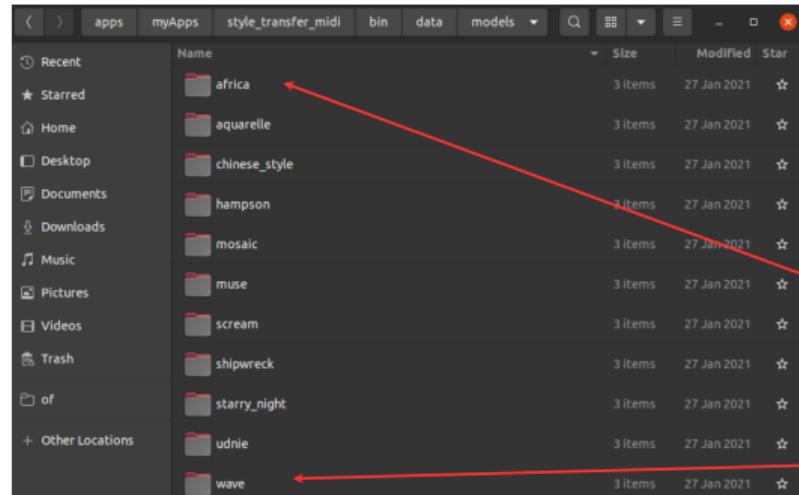
Project Idea

Use the Circuit Tracks (MIDI device) to apply different neural style transfer based on the pressed note to a real-time webcam

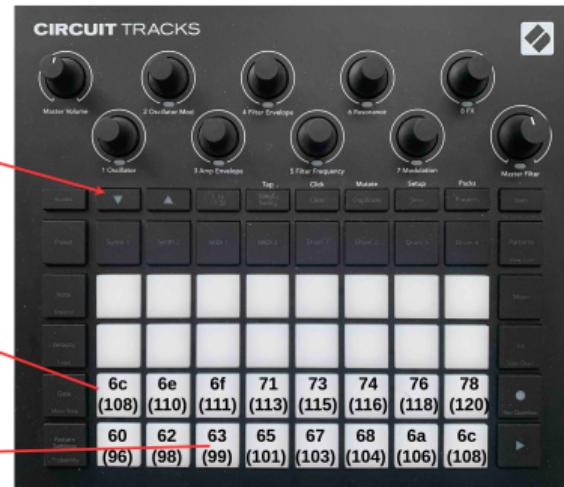
Project Structure



Project Structure



Octave = 3



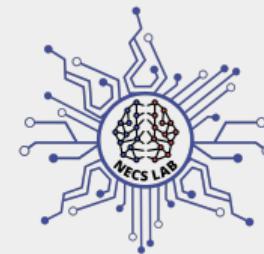
apps/myApps/style_transfer_midi

Let's work on something cool!

Neuromorphic Edge Computing Systems Lab

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Thank you!

- Hands on session