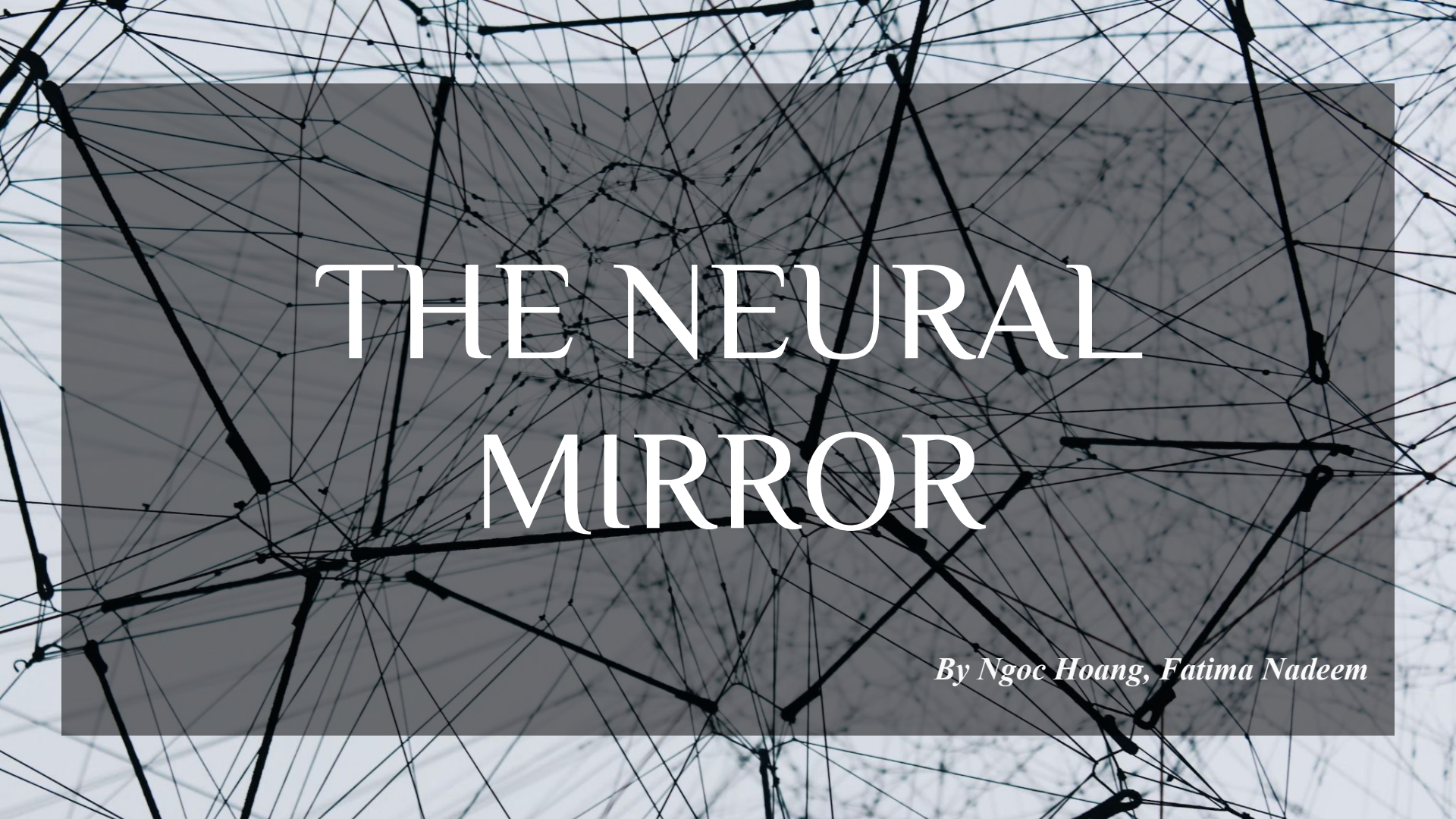
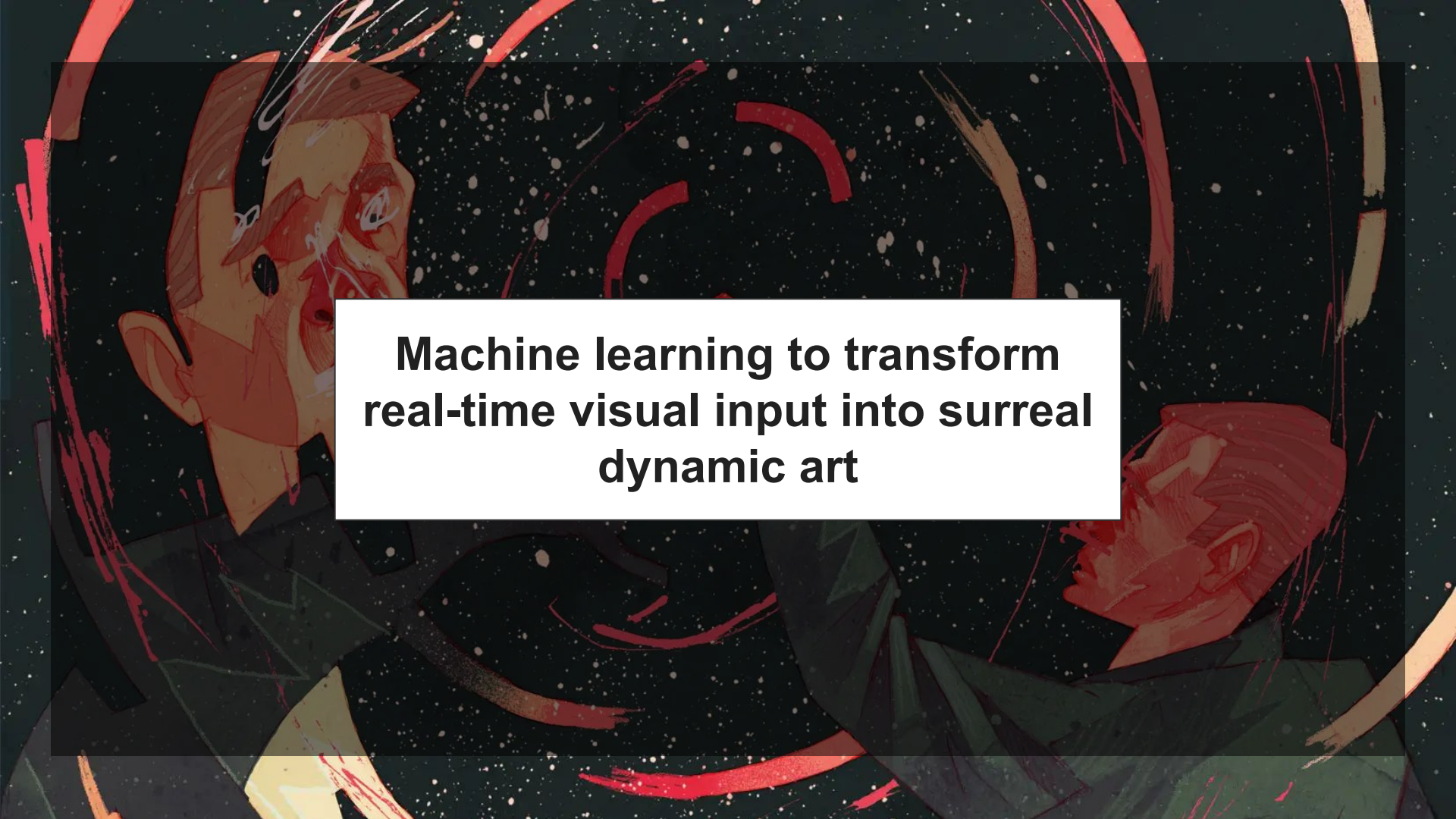


THE NEURAL MIRROR

By Ngoc Hoang, Fatima Nadeem

THEMES

- **Human vs Machine perception**
  - Evoke questions on identity and self-image
- **Extend the boundaries of art and technology**
  - Challenge what is acceptable creative expression by merging human and machines

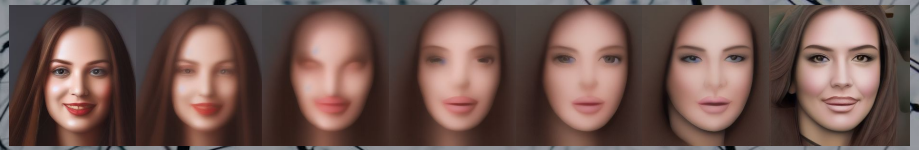

Machine learning to transform real-time visual input into surreal dynamic art

Capture frame_0

Capture frame_1

p5*

Display output frames



Send to server

Respond to interface

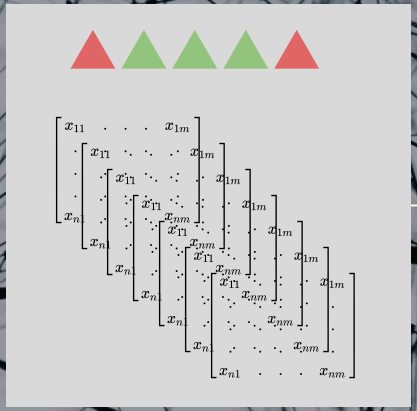
$$\begin{bmatrix} x_{11} & \cdots & x_{1m} \\ \vdots & \cdots & \vdots \\ x_{n1} & \cdots & x_{nm} \end{bmatrix}$$

latent_0

$$\begin{bmatrix} x_{11} & \cdots & x_{1m} \\ \vdots & \cdots & \vdots \\ x_{n1} & \cdots & x_{nm} \end{bmatrix}$$

latent_1

Latent representations generation



Frame interpolation

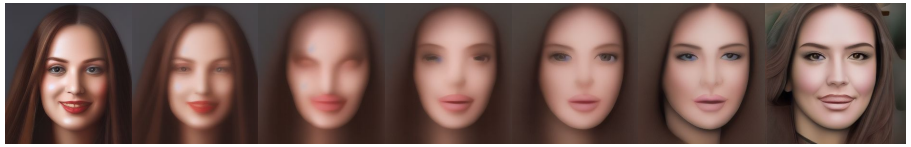
Image denoising + decoding

Capture frame_0

Capture frame_1

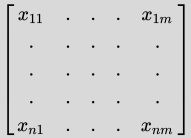
p5*

Display output frames

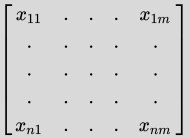


Send to server

Respond to interface

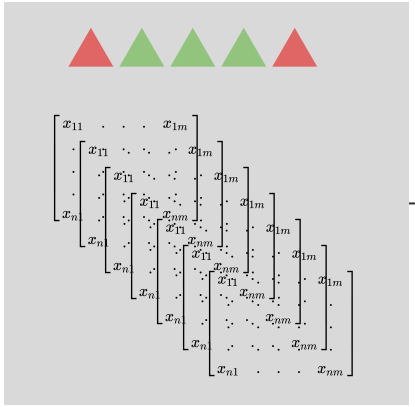


latent_0



latent_1

Latent representations generation



Frame interpolation

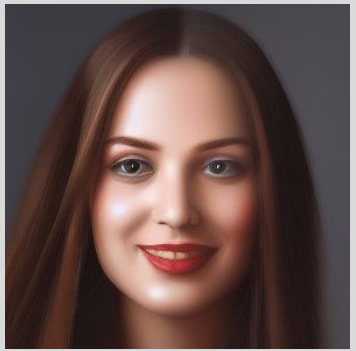
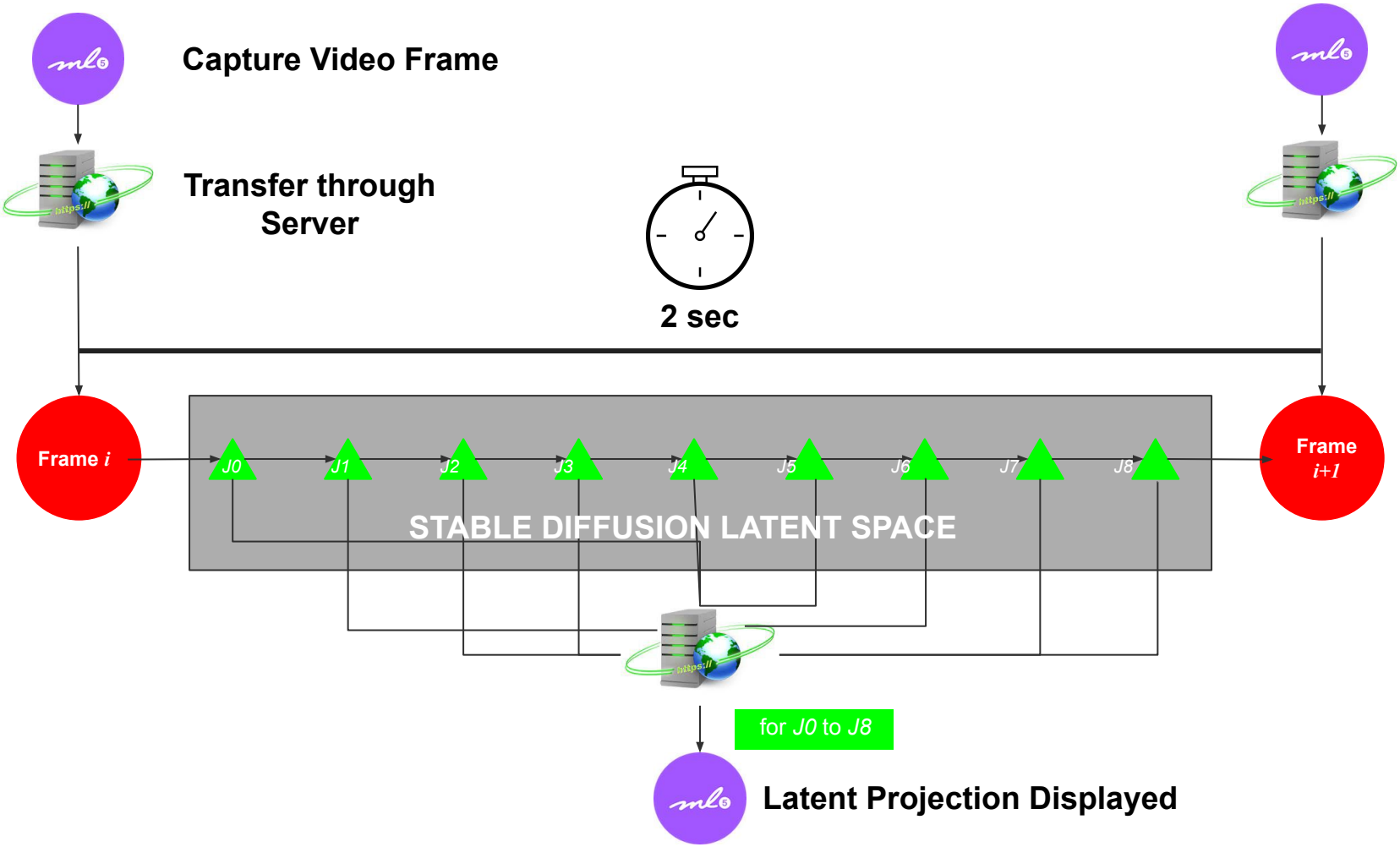


Image denoising + decoding

Flask


Capture Video Frame
Transfer through Server
2 sec
Frame i
J0
J1
J2
J3
J4
J5
J6
J7
J8
STABLE DIFFUSION LATENT SPACE
Frame i+1
for J0 to J8
Latent Projection Displayed

Ctrl + C Keyboard Interrupt