CSAIL

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The Emotional GAN

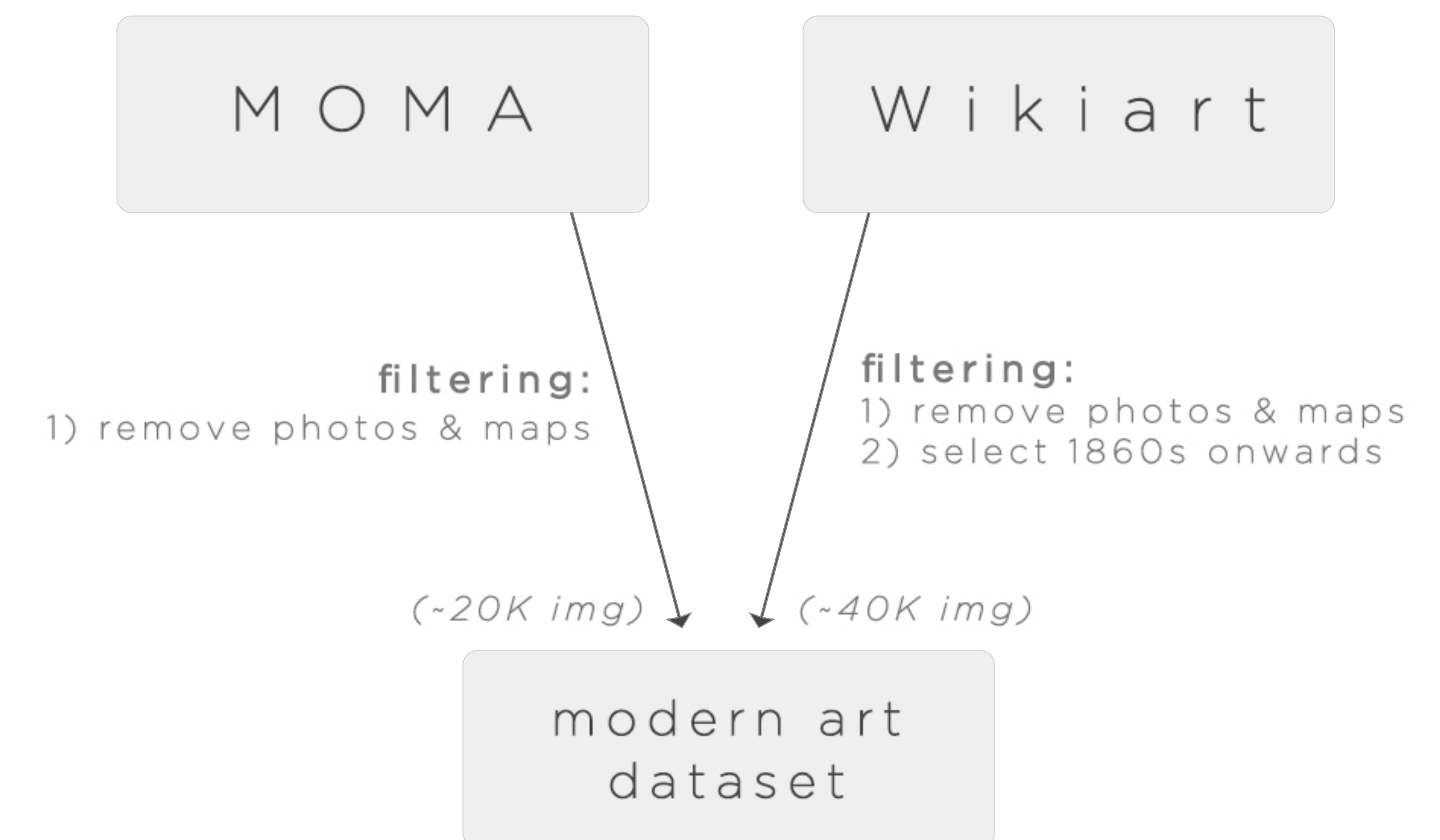## Priming Adversarial Generation of Art with Emotion

More generated artworks and open dataset:
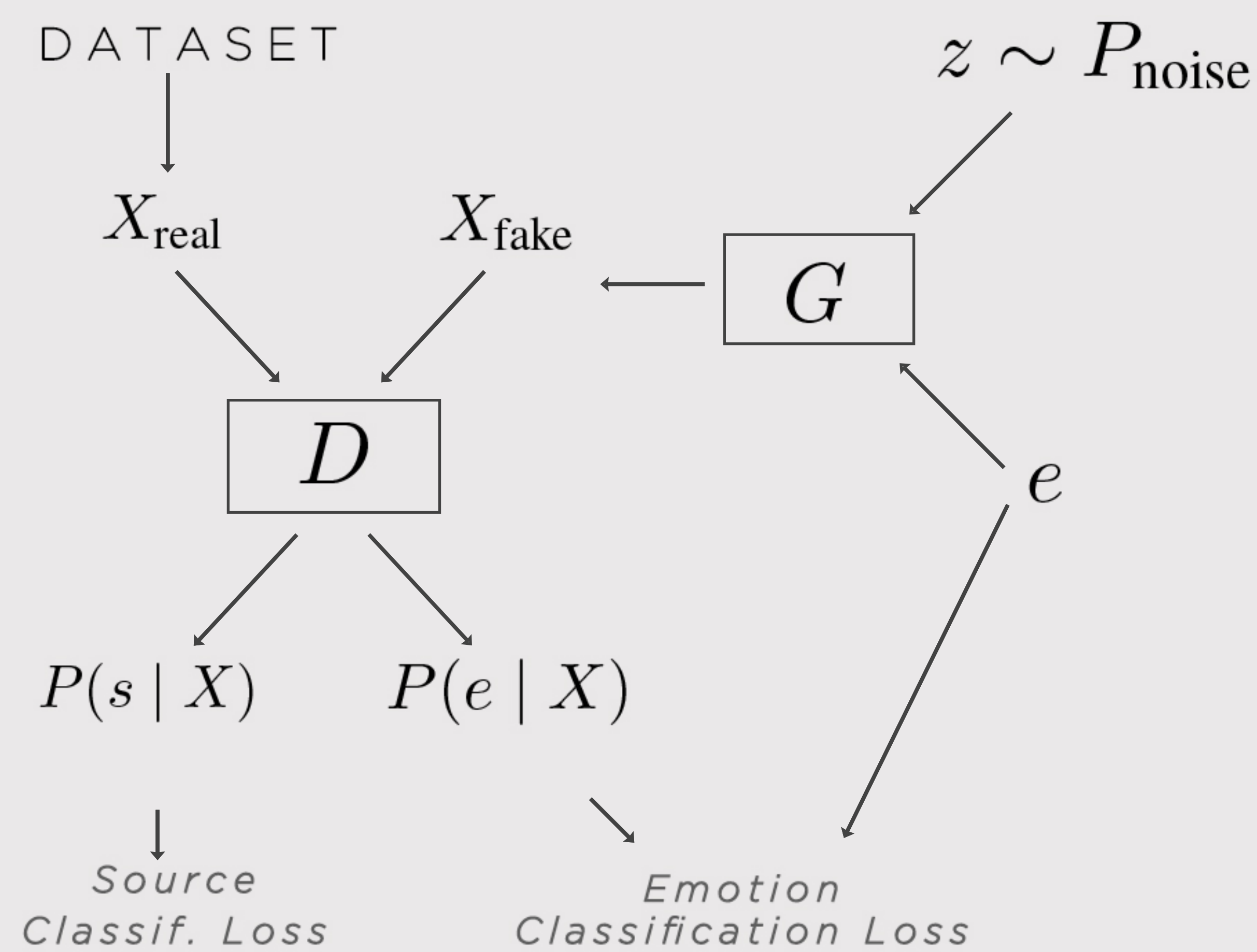**emotion2art.media.mit.edu**

SUMMARY

- Neural Net to turn **emotion into art**

- **Class-conditioned GAN** trained on modern artworks labeled with **emotions**

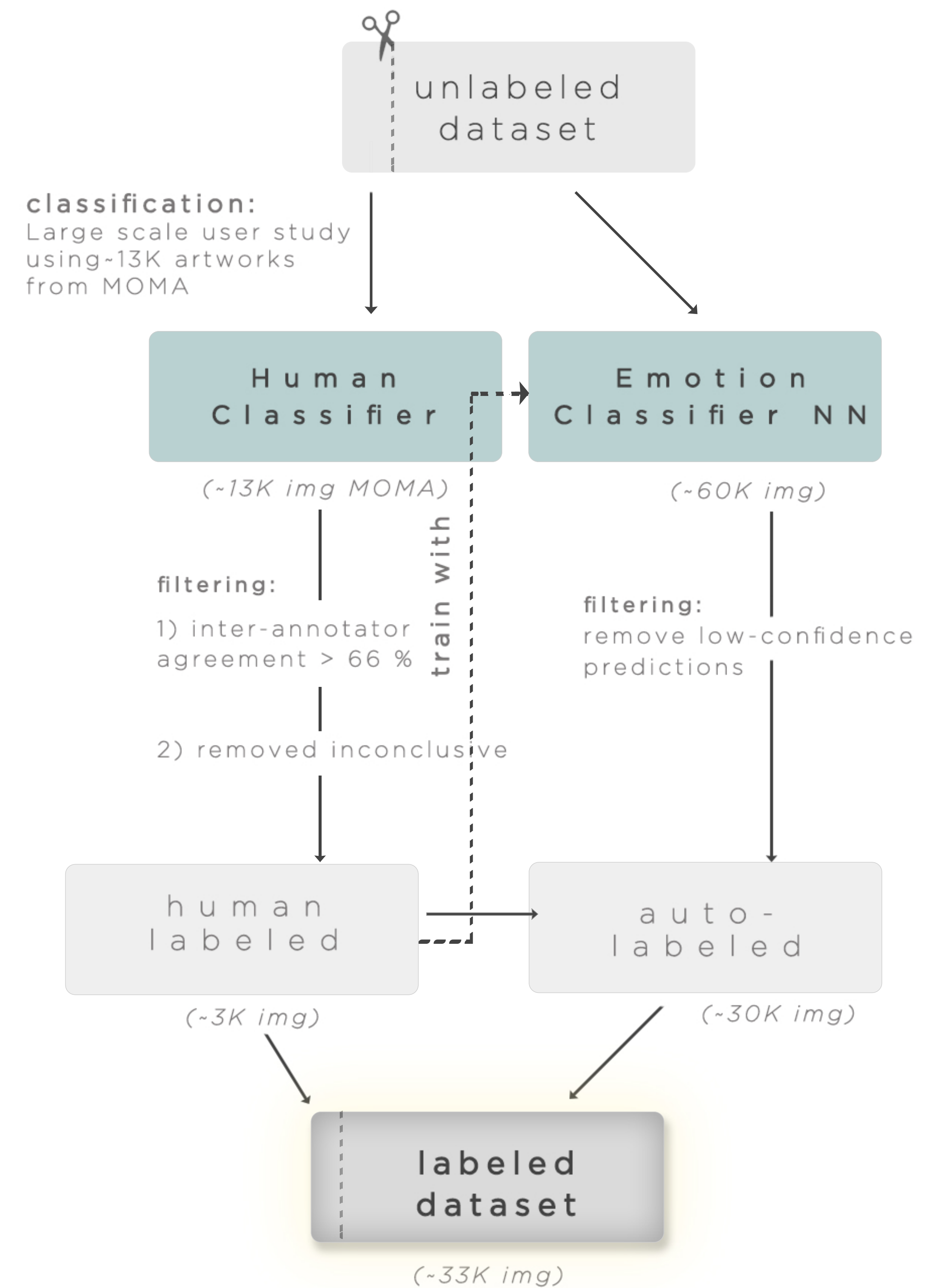- **Dataset** made of a large-scale user study of **art perception**

Model Description

DATASET

$z \sim P_{\text{noise}}$

X_{real} X_{fake} G

D e

$P(s \mid X)$ $P(e \mid X)$

Source Classif. Loss   *Emotion Classification Loss*
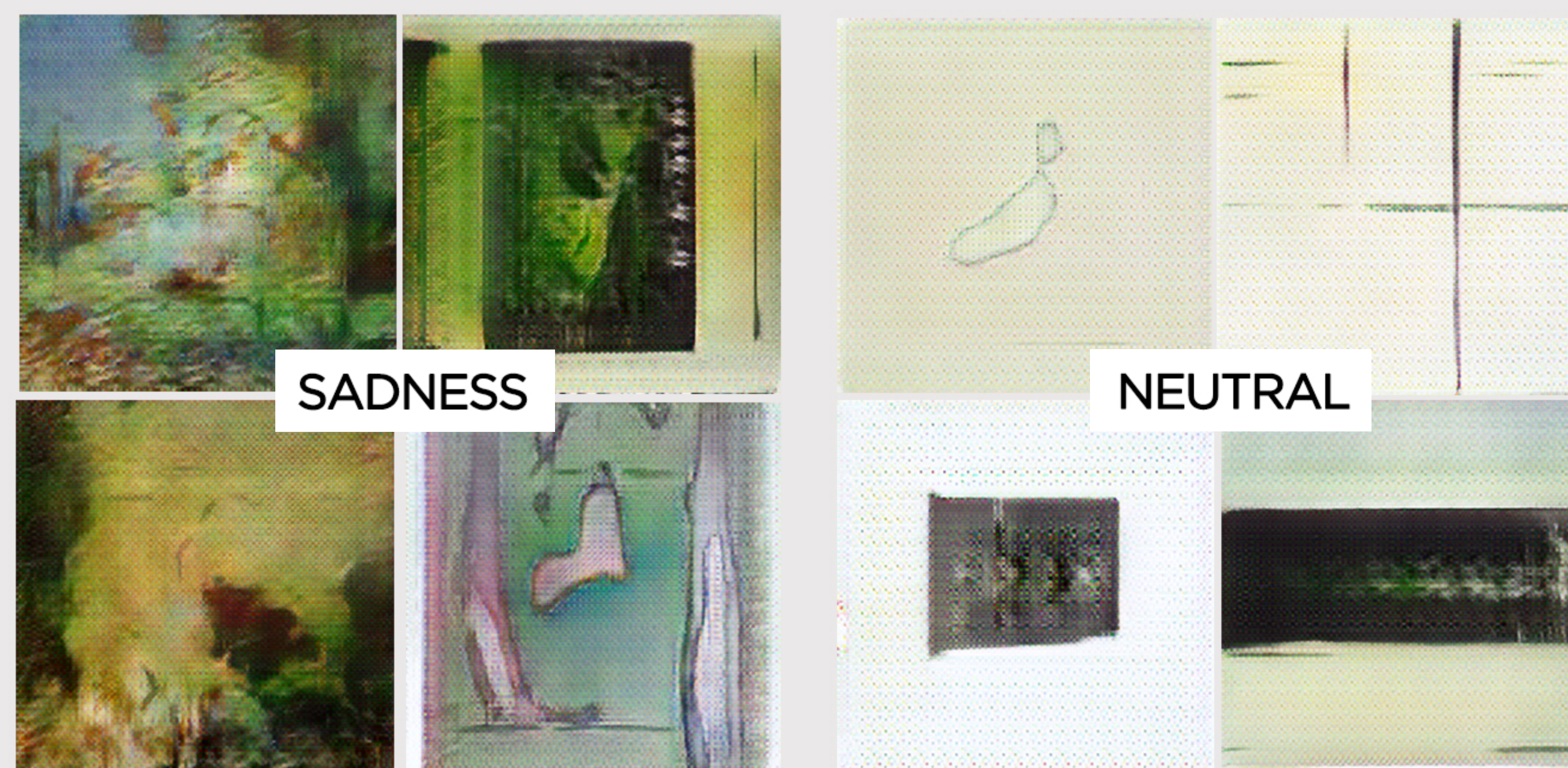
RESULTS

Agreement with previous psychology literature, e.g., bright colors for arousal, such as red for anger and dark colors for unpleasant and low arousal, such as sadness and fear.

FEAR

JOY

ANXIETY

ANGER

SADNESS

NEUTRAL

Arworks by the Emotional GAN conditioning on various emotion categories

Raw Data Collection

MOMA   Wikiart

filtering:
1) remove photos & maps

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1) remove photos & maps
2) select 1860s onwards

(~20K img)   *(~40K img)*

modern art dataset

Labeling Data

unlabeled dataset

classification:
Large scale user study using ~13K artworks from MOMA

Human Classifier   Emotion Classifier NN

(~13K img MOMA)   *(~60K img)*

filtering:
1) inter-annotator agreement > 66 %

2) removed inconclusive

filtering:
remove low-confidence predictions

train with

auto-labeled

(~3K img)   *(~30K img)*

labeled dataset

(~33K img)