Transforming Collections: Reimagining Art, Nation, and Heritage

Participatory, Interactive Machine Learning (ML): AI as a critical thinking tool

Key Principles

Context

How do we talk and write about artworks and objects in museums and galleries? How can we use AI/ML to assist with the work of cataloguing and knowledge production?

Transparency

How do we construct AI/ML algorithms and datasets to train and use machine learning models to interrogate artworks and texts that describe them?

Absence

How can we discover what's missing and highlight erasure to make marginalised artists and their work more visible in museum collections?

Engage with contentious histories imbued in collection objects and their interpretative material and collection data. **Address** structural inequalities and systemic biases in the arts. **Surface** suppressed histories. **Amplify** marginalised voices. **Re-evaluate** artists and artworks ignored or sidelined by dominant narratives. **Reveal** the sometimes uncomfortable stories that collections tell.

Build datasets to interrogate museum collections.

Maintain human-in-the-loop interaction to instill empathy, ethics, and responsibility.

Shape technology to meet the needs of Arts Historical and Museological practices.

ual: university of the arts london

TOWARDS A NATIONAL COLLECTION

UKRI Arts and Humanities Research Council

Transforming Collections: Reimagining Art, Nation, and Heritage

Participatory, Interactive Machine Learning (ML): AI as a critical thinking tool

Image Dataset: Tate

Question

How colourful is this work of art?

[0] It's monochromatic.

[1] Colour in this work is muted.

[2] Colour is used as an accent to highlight parts of the work.

[3] Colour is used as a focal point to guide viewers through the work.

[4] Colour saturates this work.

[5] This work is about colour.

Level of difficulty	1

This is a labeling exercise to explore how to use questions to classify datasets.

Here we are using a scale. Exploring the collection in this way can help us assess how a feature like colour can contribute to and impact understanding of an artwork beyond a yes/no binary.

Additionally, it provides a chance to question the levels of the scale and develop more nuance.

What does this do?

- This image dataset is likely to fit with this scale because colour is often a significant feature of artworks.
- The scale affords a closer reading of how colour contributes to artworks.

What can you do?

- Label some more items in the dataset.
- Change the scale in the labeling guide.
- Add more test examples.
- Change the training examples.

ual: university of the arts london

TOWARDS A NATIONAL COLLECTION

UKRI Arts and Humanities Research Council

Transforming Collections: Reimagining Art, Nation, and Heritage

Participatory, Interactive Machine Learning (ML): AI as a critical thinking tool

Text Dataset: Art UK

Question

Can you identify inaccessible or archaic language that would be difficult for an average visitor to understand?

Present | Absent

Level of difficulty	2

This is a labeling exercise to explore the language used to describe artworks in datasets. This may be more complex than the colour scale analysis.

Interrogating the collections information in this way can help identify how language can impact the accessibility of and how audiences understand descriptions used to explain aspects of art.

What does this do?

- This exercise surfaces how understanding, or not, of certain words can be a factor of specific knowledge and cultural awareness.
- Surfacing inaccessible language can lead to clear, accessible language.

What can you do?

- Label some more items in the dataset.
- Highlight relevant text.
- Explain any rational for labeling to help train the model.
- Add more test examples.
- Add more training examples.

ual: university of the arts london
TOWARDS A NATIONAL COLLECTION
UKRI Arts and Humanities Research Council

Transforming Collections: Reimagining Art, Nation, and Heritage

Participatory, Interactive Machine Learning (ML): AI as a critical thinking tool

Text Dataset: Liverpool Museums, National Museums Scotland, Manchester Art Gallery, British Council, Government Art Collection, Tate

Question

Analyse descriptions of artworks to identify problematic terminology or assumptions about the art or cultures of East and Southeast Asia (ESEA)?

Present | Absent

Level of difficulty	3

This is a labeling exercise to explore the language used to describe culture and people of a culture in datasets.

Interrogating the collection in this way helps assess how structural, systemic, and cultural biases can affect how people perceive and objectify other cultures, peoples, and by association, their artworks.

What does this do?

- This exercise surfaces and challenges one's own structural and cultural biases.
- It also exhibits how language used to describe people and cultures changes over time, while assumptions may not.

What can you do?

- Label some more items in the dataset.
- Highlight relevant text.
- Explain any rational for labeling to help train the model.
- Add more test examples.
- Add more training examples.

ual: university of the arts london
TOWARDS A NATIONAL COLLECTION
UKRI Arts and Humanities Research Council