Emile Male pipeline

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Proposed pipeline

Image input

Classifier for MARY

MARY — YOLO — List of objects in the image — Are these objects closely related in vector space to Mary
- No → Mark as mislabel
- Yes → Correct label

OTHER — YOLO — List of objects in the image — Are these objects closely related in vector space to Mary
- Yes → Mark as MARY
- No → Correct label

Filters to identify "which Mary"

Birth of Mary, Anunciation, Coronation, Assumption etc

miro

Scoring system

First let's consider all the classes I am taking right now.

['birth_virgin', 'marriage', 'annunciation', 'birth_jesus', 'adoration', 'coronation', 'assumption', 'death', 'virgin_and_child']
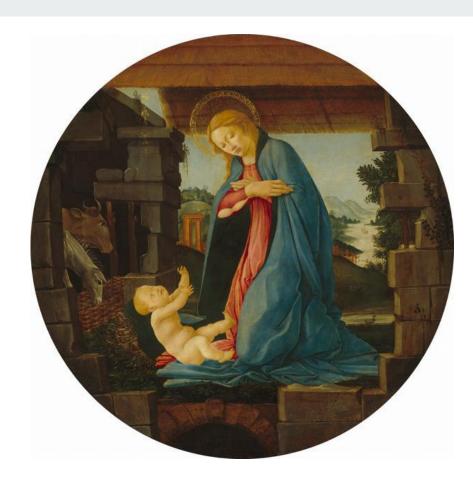
1. Define an array of zeros of the 9 for all the classes.
2. Then we consider all the labels produced by YOLO for that image. If we see a baby, we add a point to classes Birth of virgin, Birth of Jesus, Virgin with child, Adoration of Magi since these classes have a baby in them. If we see a lamb, then we add a point to Birth of jesus because he was born in a stable.
3. Apply softmax and return the most probable class.

Prediction -

30.8% Virgin with child

11.3% Birth of Virgin

11.3% Birth of Jesus

Prediction

59.64% Assumption of the blessed Virgin

8.07% Coronation

8.07% Death of Virgin

Prediction

78.1% Annunciation

10.6% Coronation

3.9% Virgin with Child

Prediction

59.49% Coronation

8% Death

8% Marriage

What's next?

1. Pose estimation and add it to the scoring system. For example, during annunciation of Mary, she is often in prayer with her hands together. Another example, during marriage of Mary and Joseph, their hand is stretched away from their body. These poses can be utilised by the scoring system.
2. Continue training the YOLO model. Yolo forms the bases of everything this module wishes to achieve, so it is important to keep working on it.
3. Finally, deploy the pipeline on CWRU HPC.