Image experiment analyzer

CPSC 547 project proposal
One line pitch

Make a visualizer to debug image/video reconstruction/augmentation computer vision methods
Motivation

- Current tools mainly support hyper parameter visualization only:
  - Tensorboard
  - Weights and biases

- Image level comparison is largely missing
  - From comparison between experiments and ground truth, researchers can figure out what the bug is
Possible Questions

- Frame comparison

Is frame in experiment A better than experiment B?

- 2d metrics visualization (correspondence with real images)

Where is the experiment A better than experiment B in this metric?
Possible Questions

- Zoom in comparisons
- Video metric alignment

Exploring and comparing experiment details

Are the images aligned?

Which frame is experiment A better than experiment B under this metric?
Further challenges

- How to “show” motion quality between experiments
- How to compare between multiple experiments
- How to make 2D metric difference obvious
- What kind of data transformation is useful
- ....
miscellaneous

Possible todos

- Talk to domain experts (the researchers)
- Get more data sets

Dataset properties:

- Lots of images
- Many metrics
Looking for partners/Looking for projects to join

- Will probably use python

Thankyou!!