Questions to answer for final report

Introduction / Background / Motivation:

o (5 points) What did you try to do? What problem did you try to solve? Articulate your objectives  
using absolutely no jargon.  
o (5 points) How is it done today, and what are the limits of current practice?

 "Do Vision Transformers See Like Convolutional Neural Networks?" (ICLR 2021):

* ViTs exhibit different inductive biases compared to CNNs and show better robustness to adversarial attacks and occlusions.

 "How Well Do Vision Transformers Generalize?" (Arxiv 2021):

* ViTs outperform CNNs on robustness benchmarks and generalize better to unseen data, but only with sufficient pretraining.

 "A Closer Look at Transfer Learning in Vision Transformers" (CVPR 2022):

* ViTs adapt better to diverse downstream tasks when fine-tuned on large pretraining datasets.

o (5 points) Who cares? If you are successful, what difference will it make?  
o (5 points) What data did you use? Provide details about your data, specifically choose the most  
important aspects of your data mentioned here: Datasheets for Datasets  
(https://arxiv.org/abs/1803.09010). Note that you do not have to choose all of them, just the most  
relevant.

* UTKFace and intel image
  + Why…2 diff types of data
* Limitations:
  + Due to computing constraints, we weren’t able to utilize large dataset differences, and selected these 2 because they were distinct enough due to the reasons above yet manageable for our systems

Approach:

o (10 points) What did you do exactly? How did you solve the problem? Why did you think it would  
be successful? Is anything new in your approach?  
o (5 points) What problems did you anticipate? What problems did you encounter? Did the very first  
thing you tried work?

Experiments and Results:

o (10 points) How did you measure success? What experiments were used? What were the results,  
both quantitative and qualitative? Did you succeed? Did you f ail? Why? Justify your reasons with  
arguments supported by evidence and data. Make sure to mention any code repositories and/or  
resources that you used!

Additional:  
15 additional points will be distributed based on:

o (5 points) Appropriate use of figures / tables / visualizations. Are the ideas presented with  
appropriate illustrations? Are the results presented clearly; are the important differences  
illustrated?  
o (5 points) Overall clarity. Is the manuscript self -contained? Can a peer who has also taken Deep  
Learning understands all of the points addressed above? Is sufficient detail provided?  
o (5 points) Finally, points will be distributed based on your understanding of how your project  
relates to Deep Learning.

Here are some questions to think about:

− What was the structure of your problem? How did the structure of your model reflect the structure  
of your problem?  
− What parts of your model had learned parameters (e.g., convolution layers) and what parts did  
not (e.g., post-processing classifier probabilities into decisions)?  
− What representations of input and output did the neural network expect? How was the data pre/post-processed?  
− What was the loss function?  
− Did the model overfit? How well did the approach generalize?  
− What hyperparameters did the model have? How were they chosen? How did they affect  
performance? What optimizer was used?  
− What Deep Learning framework did you use?  
− What existing code or models did you start with and how did these starting points help