Image Captioning

Question 1 model link:
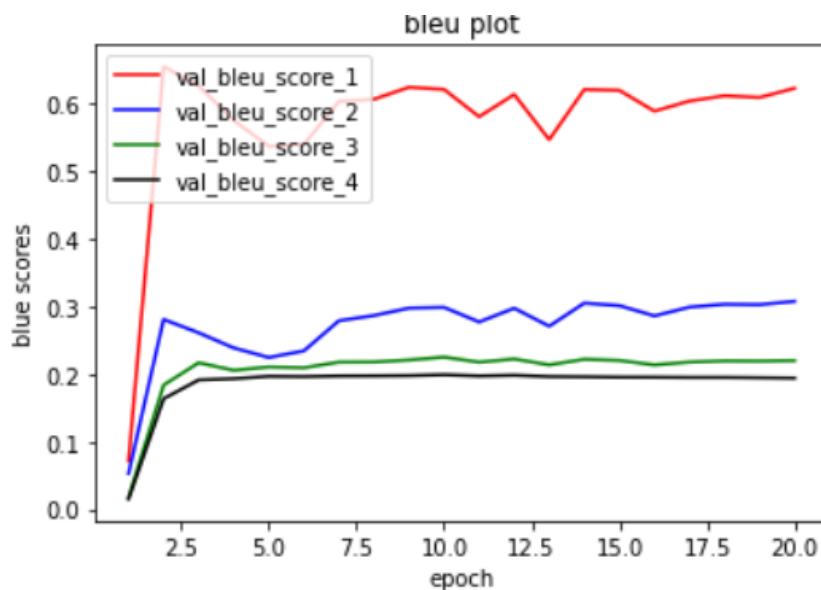
https://drive.google.com/drive/folders/1lh8Ja-KX5ND8YMt96lYwbzQI6iL3Omc4?usp=sharing

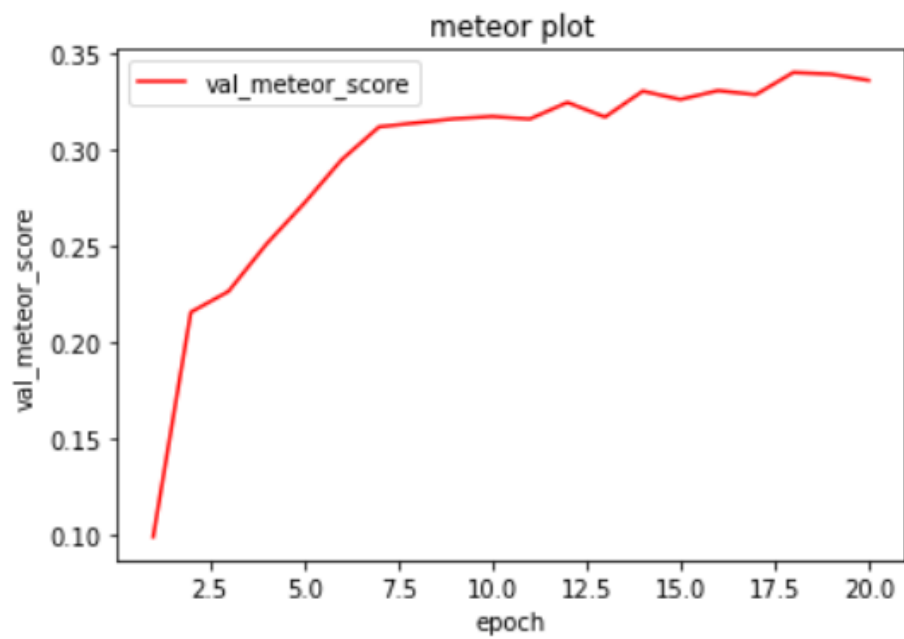Question 2 model link:

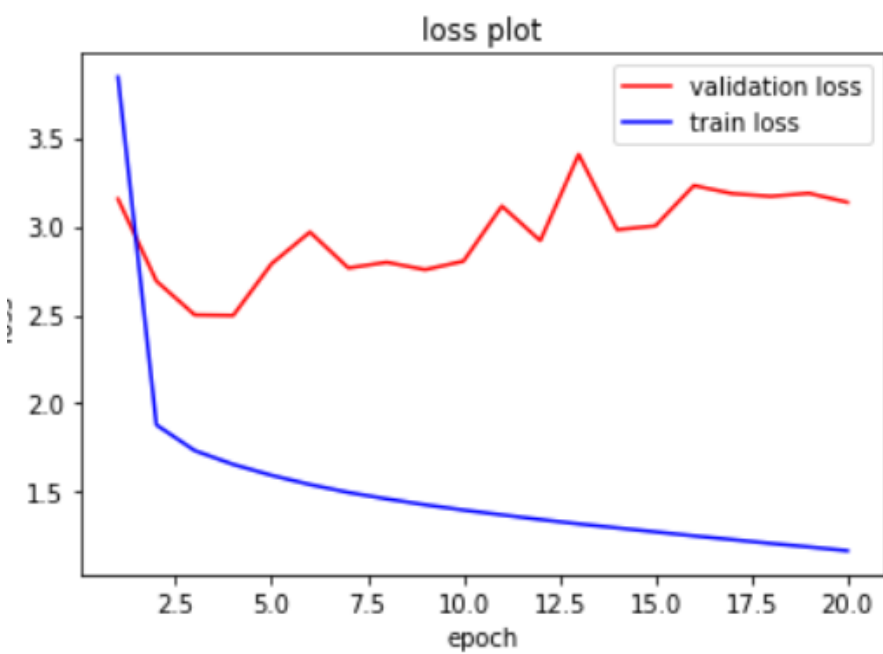https://drive.google.com/drive/folders/1_PkXR84HE1IpUg0P0PD4VL3FZJIDRNZO?usp=sharing

Question 1

PLOTS :-

meteor plot

METEOR score vs epochs

loss plot

Question. Display the word and relevant attention weights associated with it.

1

1) Original Image:

Attention:

predicted caption [' <start> A group of people are in a rock hill . a man in . him . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>']
original captions [[' <start> A group of people sit on a rocky ledge with a scenic view behind them . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>', ' <start> A middle aged black man is sitting down looking straight in our direction . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>', ' <start> Four adults are sitting on a ledge overlooking mountains . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>', ' <start> Four people sitting on a stone wall that overlooks trees and buildings . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>', ' <start> Four people sitting on low cement ledge . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>']]

<start> A group of of people are in

a rock hill . a man in

him

2) Original Image:

Attention:

predicted caption [' <start> A man is standing in a red . . front of a background . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>']
original captions [[' <start> A goalie is crouching in a defensive position in front of the goal . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>

```
<pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>
<pad> <pad> <pad> <pad>', ' <start> A hockey player in blue and red guarding
the goal . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>
<pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>
<pad> <pad> <pad> <pad> <pad>', ' <start> An ice hockey goalkeeper in a red
and blue strip is on his knees in front of the goal . <end> <pad> <pad>
<pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>
<pad> <pad> <pad> <pad>', ' <start> An ice hockey player is bending down on
the ice . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>
<pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>
<pad> <pad> <pad> <pad> <pad>', ' <start> The hockey player knelt on the
ice . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>
<pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>
<pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>']]
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3) Original Image:

Attention:

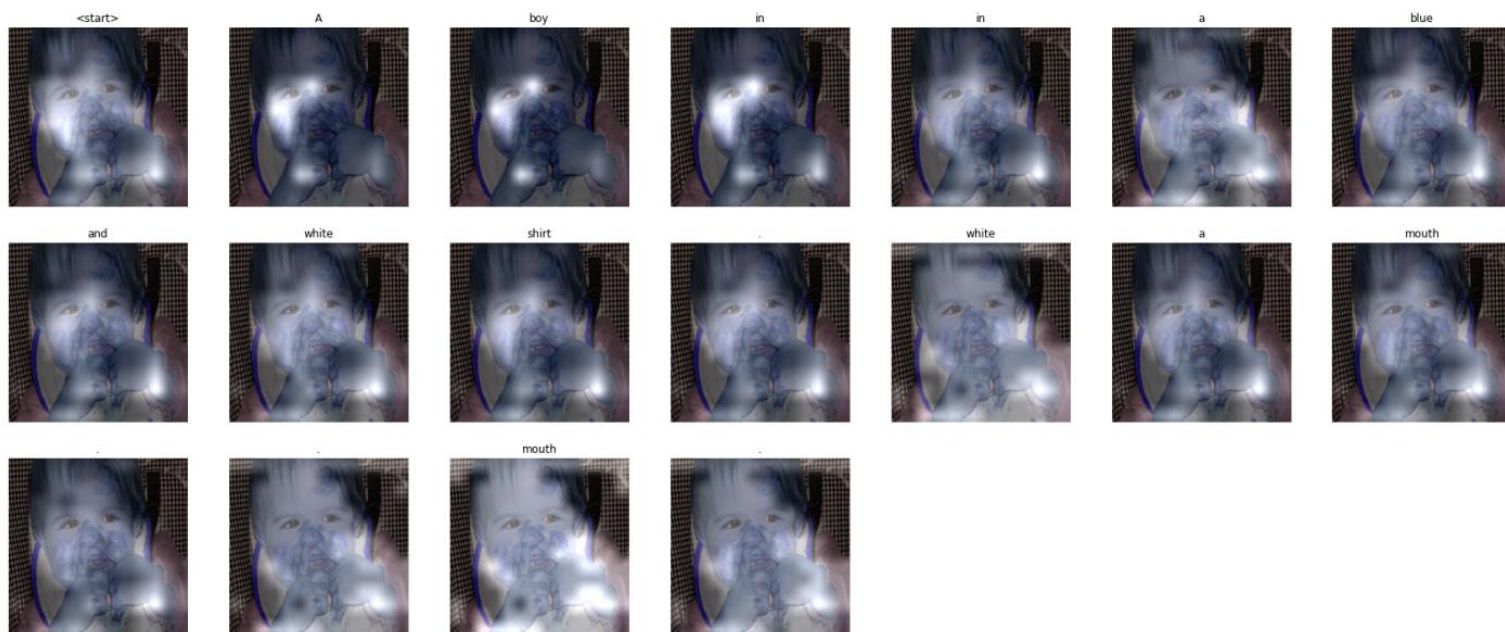**predicted caption** [' <start> A boy in in a blue and white shirt . white a mouth . . mouth . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>']

original captions [[' <start> A baby sits in a black and white chair and puts its fingers up its nose . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>', ' <start> A baby with food smeared on its face and two fingers up its nose . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>', ' <start> A baby with its fingers up its nose . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>', ' <start> A baby with two fingers up its nose , covered in chocolate pudding <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>', ' <start> A young baby with food on her face in a purple shirt and both fingers up her nose <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>']]

4) Original image

Attention:

predicted caption [' <start> A elderly woman in a red and a trick . . a .
a . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>
<pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>']
original captions [[' <start> An elderly man wearing a sombrero riding a
mobility scooter while shopping for shoes . <end> <pad> <pad> <pad> <pad>
<pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>

```
<pad> <pad> <pad> <pad> <pad> <pad> <pad>', ' <start> An old man on a cart
shopping for shoes <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>
<pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>
<pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>', ' <start> An old
man wearing a large hat , and riding in a motorized wheelchair , is picking
out shoes at a store . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>
<pad> <pad> <pad> <pad> <pad> <pad> <pad>', ' <start> Man on electric scooter
looking at shelves of shoes . <end> <pad> <pad> <pad> <pad> <pad> <pad>
<pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>
<pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>', ' <start>
Senior citizen shops for shoes with a sombrero on his head . <end> <pad>
<pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>
<pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>
<pad>']]
```
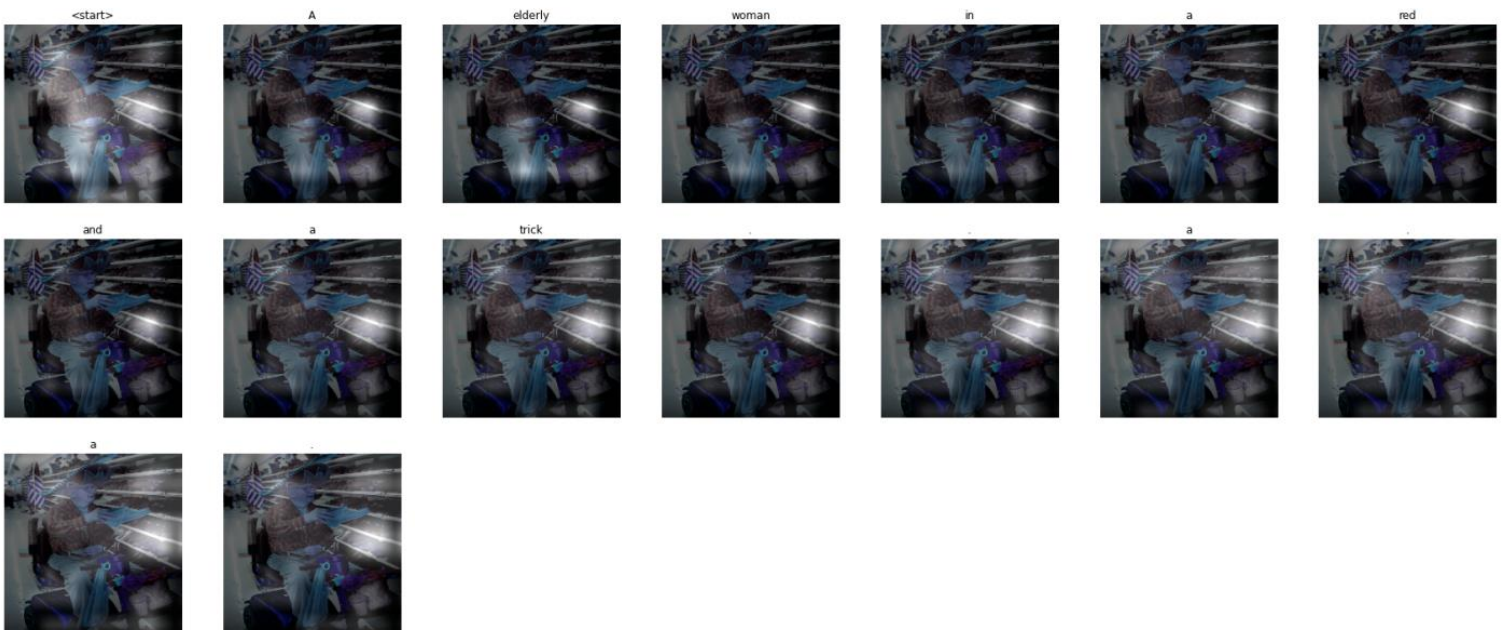

5) Original image

Attention:

predicted caption [' <start> A man is a red shirt is jumping at a camera of water . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>']

original captions [[' <start> A child in a yellow shirt is looking at the body of water . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>', ' <start> A group of people near a lake and on a bridge . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>', ' <start> A little boy in a yellow shirt walks near the edge of a pond . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>', ' <start> a young boy runs for the pond . <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>', " <start> Reflections in water of people on bridge and child walking to the water 's edge <end> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad> <pad>"]]