CS x476
Project 0

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Instructions

- Do not change format or add pages. If you do, you might not receive full score
- Images: When placing images or plots, do it at the size of the given box marked in red.
- All the red text highlights where you need to fill with an answer.
- Submit a pdf to Gradescope, to the assignment “Project 0 – Report”

Part 1: Introduction to Vectors and Matrices

Part 1.b: Tensor multiplication. What happens when you perform matrix multiplication on a 2x3 matrix with a row-vector of size 3?

- Torch will return an error. You cannot multiple a 2x3 matrix by a 1x3 matrix.

Part 1.c: After applying the vector transpose, what is the dimension of the resulting vector? (replace the values for ‘a’ and ‘b’)

Size = torch.size([[a],[b]])

Returns (2,1)

Part 2: Working with images

Part 2.a: Cropping images. What special indexing (slicing) values would you have to use to crop a tight bounding box around the fish like the image below?

Cropped_image = im[200:430, 150:780, :]

Part 2.b: Stacking gray images to form colored images. What happens when you try to stack the R,G,B channels in the incorrect order (i.e. G-R-B, B-G-R, R-B-G, etc…)?

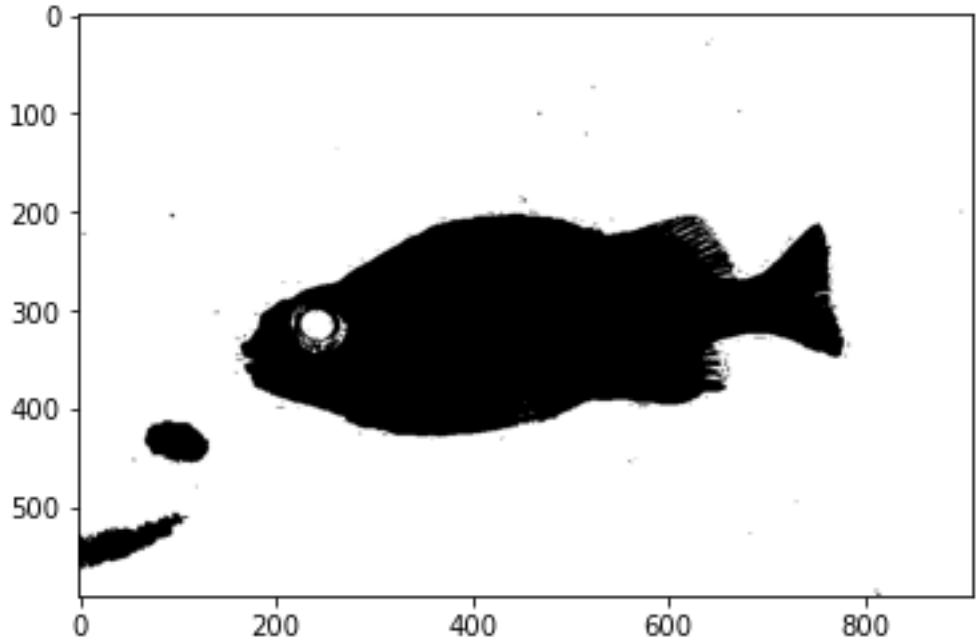
- The coloring of the image changes, with the fish matching the color of the layer on top and the color of the water a blend of the two bottom images.

Part 2.c: Concatenation of images. Place the result for the image concatenation.

<Plot here>

Part 2.d: Point Operations. Place the resulting image after applying the created mask onto the fish image.

<Plot here>



Extra Question: Give a brief description on how easy was for you to setup the environment and start working on the project. Is there something you found difficult during the setup of the project?

- Setting up was simple enough, however I was hoping that there would be more guidance on training using GPU