ECE324 Assignment 1 Qualitative Questions

Devansh Ranade
1004221399

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1. Since the matplotlib image scales from 0 (darkest) to 1 (lightest) in pixel values, adding 0.25 to each value increases the overall brightness of the image as each pixel becomes more white. This is why the resulting image seems whitewashed. If we had subtracted 0.25 instead, each pixel would have gotten darker instead, making the image darker instead.

2. Through EngSci, I have taken CSC180 (Intro to Computer Programming) and CSC190 (Computer Data Structures and Algorithms) at U of T which were taught in Python and C. I have also taken ECE253 (Digital and Computer Systems), a course which involved low-level programming through Verilog and Assembly Language. In another course I took, AER201 (Engineering Design), I was responsible for coding the PIC microcontroller of an autonomous robot in C. Aside from strictly programming courses, I have taken CSC236 (Intro to Theory of Computation) and CSC263 (Data Structures and Algorithms) out of my own interest. While the CSC courses involved almost no programming, their theoretical nature helped develop a mentality for data organization and planning while coding.

   Aside from school, I have also spent the previous summer involved in UAIG (Undergraduate Artificial Intelligence Group). With this group, I was responsible to help design a curriculum to teach first and second year students intro AI. Over the summer, I gained experience with Anaconda, Spyder, Numpy, Matplotlib, and Google Colab. Using these tools, I have learned about helped create workshops for AI topics such as Neural Networks, Data Processing, Classification, etc on Colab.

3. I found the instructions for the assignment fairly clear.

   The installation instructions were not applicable to me as I already had Anaconda and PyCharm installed.

   In terms of changes, the assignment was already fairly easy to follow. While these are minor changes, I would appreciate having sample use cases of functions/callable objects given with the assignment. This would remove any potential ambiguity regarding the requirements for code. For example,

   - Write a callable object `Adder` that adds five to the input number and returns `False` for invalid inputs.

     ```
     >>> x = Adder()
     >>> x(5)
     10
     >>> x('Hello')
     False
     ```

   Also, it was slightly unclear how much error checking we had to do. Are we allowed to assume that the user of our classes will not attempt invalid inputs? I found a lot of my code was used to check if the inputs were valid or not (this may have been unnecessary depending on the context).

   Overall, the assignment was fairly straightforward. Thanks for the clear instructions.