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**Responses:**

**Part 3: If the two files you compared above are the same, does it prove that your code is correct? Explain your answer.**

**Response**: If the two files contains the same vector and produce a zero vector as the output_difference, then it means my code can produce the same output as the numpy.dot() function, which means my code is correct.

**Part 5.2.1: How does the image img_add.png differ from the original image? What would happen if we had subtracted 0.25 from the original image instead of adding?**

**Response:** img_add.png appears to be brighter than the original, due to the fact that each pixel's now has a RGB values are closer to 255. And since an RGB value of (255, 255, 255) is the color of white, every pixel is now closer to the color white, which causes img_add.png to appear brighter. On the other hand, if 0.25 is subtracted from the original image, each pixel will have a RGB value farther from (255, 255, 255), which would make each pixel appear closer to the color black, making the image appear darker.

**Part 5.2.2: Describe your programming experience in a few paragraphs. This can include the courses you have taken here at UofT, but if you have more experience, describe that as well.**

**Response:** In high school I took a java programming course in grade 12, in which I learned how to code in java, andwe've learned about some sorting algorithms. In the first year of Engsci, I took csc180 and csc190. In csc180, I learned the basics of C and python, which includes basic syntax, struct/classes, pointers, and some introduction to OOP. I also learned about some sorting algorithms and data structures. In csc190, more topics in data structures are covered, which includes linked list, Queue, Stack, Trees, Hash table, Heap and Graph, as well as some algorithms associated with these data structures.

In first-year summer, in my research position on a project called "InfraGHG", I have to analyze large quantities of invoices for the purpose of collecting quantitative data. I used openOCR and some other various python image processing library and made a bot to automate the process for me.

In second year, I had some exposure to low level programming from the digital system course. I was also working on some small projects at neurotech UofT that involves using numpy for signal processing.

In second-year summer, I found a gig developing mobile iOS app as a full-stack developer for a fitness start-up based in Vancouver. After 3 weeks familiarizing with the programming language (swift and a little bit of Objective-C), I spend the rest of the summer programming. For the front-end, I utilized a lot of external library (swift) as well as apple's own library (swift). For the back-end of the program, I largely utilized Amazon web services, some of the things I used are DynamoDB database, Cognito authentication system, S3 data storage and Lambda cloud computing. I was also exposed to topics like Restful API, version control, asynchronous programming and multi-threading. I also did a lot of debugging.

**Part 5.2.3: Describe your experience with Assignment 1: how clear were the installation instructions and questions? How can we make it more helpful?**

**Response:** Most of the instruction is clear, and I found it easy for someone with some programming experience to re-familiarize the syntax of NumPy and python. The only thing unclear is the step 4 of part 4. I wasn't really sure how the callable object is called until reading the part2_test.py file. I think a diagram might be helpful for that step.