Reflective Writing

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I chose GANs model as the topic of my final year project because my research experience is in CUHK. my research in CUHK is mainly focused on deblur in computer vision. This topic is also related to images, so I would like to expand my knowledge of machine learning in images and utilize some of my existing ideas to complete my final-year project. also, GANs models have been a hot topic in machine learning, and I can learn a lot by going deeper into two of them this time. I learned about the main structure of the GANs model and the problems encountered with the model, and I got a deeper understanding of conditional GANs and its applications. For myself, the GANs model is very interesting because it is not only visually appealing, but it also serves as a good introductory model for machine learning. The training is not very difficult and there is a visible demonstration of progress at each step. This inspired me to learn more. Through this final-year project, I have been learning mainly by

reading papers and finding information on the internet. There is some knowledge that I have already stocked up in my original study: such as the test of SSIM index, load data of image model, etc. But how to apply this knowledge to new scenarios is what I need to learn. So I read a lot of articles, focusing on how the authors capture the key points of the model and what aspects need to be seriously considered. And there are some new problems, such as model collapse, that I have never encountered before, which requires me to look for information and code solutions. I tried many ways to solve model collapse one by one, such as changing the learning rate, early stopping, changing the batch size, and so on. Eventually, I got better results.

I think the biggest change I've made since entering university is my ability to learn more. In high school filler education, the teacher explains each knowledge point very carefully, students do not need to use their brains, and memorization can do a good job. However, this is not the university case, as there are many knowledge points in each class, and no one will be able to explain them to you one by one, so it is especially important to be able to study and understand them on my own. Gradually, I began to learn to form my knowledge network and summarize. Some of the points I didn't understand in class can be found on web pages/YouTube, and programming questions can be asked on CSDN and ChatGPT. we are now more diversified in our learning, and knowledge can come from all over the world. I have gradually learned to study on my own and how to organize my time wisely.

And, because college doesn't have a very strict schedule telling us what we need to do each day and each time slot, time management will turn out to be a major factor in determining everyone's grade. I've found a way to relax and stay efficient after adjusting time and time again: I study during the daytime, but I can't study after 9:00 p.m. It's my time to relax and recuperate. I believe that being able to study efficiently for a long period is the key to being able to win, and I am not in favor of not sleeping/staying up late to study before

exams. How to stay physically and mentally healthy is also something I learned in college that is very important to me.

For my future study/life plans: I plan to study statistics at Duke University in the US and would like to learn more practical skills. Whether it is programming or modeling, I think it will help me a lot in my future employment. I hope to do some programming in the summer of 2024, like taking Introduction to Programming from Rice University at Coursera, and then some more targeted programming and modeling courses. This will help me in future interviews. I don't think it matters what path I choose, the most important thing is to be able to stick to it and do the best I can without regretting my choice!