电子科技大学
格拉斯哥学院
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# Logbook

From: 20/09/2021 To: 25/10/2021

| **Month** | **List the main activities** (only few words per activity) | **Interaction with the supervisor** | | | **Any other form of supervisory interaction** (second supervisor, industry, fellows etc.) |
|---|---|---|---|---|---|
| | | Number of meetings | Mode of meeting (face- to-face, online e.g., Skype, WeChat etc.) | Number of emails exchanged | |
| 2021.9. | 1. Talk the basic tasks of face detection<br>2. Installed the pycharm python language editor software and anaconda, build Pytorch environment.<br>3. Learn the basic knowledge of deep learning. | 2 | Email and face to face | 4 | Work with another student who did the similar project with me Yuhua Nie, and discussed about the task. |
| 2021.10. | 1. Read essays about Faster-RCNN and YOLO, finally choose to use Faster-RCNN.<br>2. Build simple CNN model and train the 5x5 number classification model | 3 | Email and Wechat | 6 | Work with another student who did the similar project with me Yuhua Nie, and discussed about the task. |

Logbook 1

2021. 9.20. Email contact with Prof. Qi, discussed the ~~first~~ first face-to-face meeting of the final year project. I prepared a lot for the meeting, searching for some basic information about face detection and deep learning.

2021. 9.25. The first meeting with prof. Qi, after the communication, I understand that in order to implement the object dection, I need to understand the basic deep learning algorithms, the ~~da~~ classic convolution nerual network algorithm, the clase Faster-RCNN method and the YoLo method. After the meeting, I also followed tutor's advice and read some essays about deep learning, and how to build the ~~metho~~ ~~neur~~ neural network.

2021. 9.27. I contacted a graduate student in prof. Qi's lab, and she gave us some guidance of the ~~install~~ software installing and environment configuration.

2021. 9.29. I finished the basic process of these project, the software Pycharm was installed successfully and I have already installed the package of language python. Also I installed Anaconda, which contain almost all ~~the~~ tools I need in the following research.

2021.10.2. I implemented the simple neural network with 1 layer as a classifier. Then I learnt some basic functions, like the cross-entropy function. Also, the ~~great~~ gradient-descent with momentum algorithm demonstrated the best performance.

2021.10.5. I watched some videos about the theory of the Fast-RCNN. I learnt generally there are two ways, ~~one is two-stage method~~, the two-stage method, or the YoLo. Some based on the Pytorch environment, and the other is based on tensor-flow. Finally I decided to use Pytorch, for it is more flexible.

2021.10.7. I read ~~one~~ an essay, Real Time Object ~~Dete~~ Detection and Tracking Using Deep Learning and OpenCV. Chandan G, Ayush Jain. It used YoLo v5 network model and did some image process, and can reach 90% accuracy through ~~visual~~ visualization analysis.

2021.10.15. I contact with Prof. Qi and his graduate student with wechat, chatting with the CNN model. After communication, I trained a CNN model and tested a 5x5 number classification model with the help of ~~trackprog~~ back-propagation method using matlab.