Student Report on Work Placement

学生实习报告

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- Programme / 专业: Computer Science and Technology 计算机科学与技术

- Student ID / 学号: 1927550

- Year of Study / 年级: 4

- Placement Provider / 实习单位: XJTLU SURF Team

- Field / 领域: IT/E-communication/Internet IT 服务/电子通信/互联网

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* This report is to be printed out and completed by both students and work placement provider.

Diary of the work placement 实习日志

Date 日期 / Hours 时长	Project 实习项目	Activity 工作内容	Outcome / Achievement 实习成果
13 June/ 3	Preparation stage	Study on Pytorch	I have studied the basic information of Pytorch.
14 June/ 3	Preparation stage	Study on Pytorch	I have studied the basic information of Pytorch.
15 June/ 3	Preparation stage	Study on Pytorch	I have studied the functions of Pytorch.
16 June/ 3	Preparation stage	Study on Pytorch	I have studied the functions of Pytorch.
17 June/ 3	Preparation stage	Study on Pytorch	I have studied the functions of Pytorch.
18 June/ 5	Preparation stage	Study on Pytorch	I have studied and tried using Pytorch with simple codes by following videos.
19 June/ 4	Preparation stage	Study on Pytorch	I have tried using Pytorch with simple codes by following videos.
20 June/ 3	Preparation stage	Getting used to AIURC	I have worked on how to use AIURC webpage provided by school, by reading English version of guideline that Professor Erick has given.
21 June/ 3	Preparation stage	Getting used to AIURC	I have worked on how to use AIURC webpage.

22 June/ 3	Preparation stage	Getting used to AIURC	I have worked on how to use AIURC webpage.
23 June/ 3	Preparation stage	Getting used to AIURC	I have worked on how to use AIURC webpage.
24 June/ 4	SURF Lit Survey Presentation 1	Presenting a literature on medical segmentation.	I Listened to other students presenting on their literature. Tried training the models from presentation using AIURC web page.
25 June/ 4	Preparation stage	Study presentation again and try testing the model.	I have tried training the models from presentation using AIURC web page.

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26 June/ 4	Preparation stage	Study presentation again and try testing the model.	I have tried training the models from presentation using AIURC web page.
27 June/ 4	Preparation stage	Study presentation again and try testing the model.	I have tried training the models from presentation using AIURC web page.
28 June/ 4	SURF Lit Survey Presentation 2	Presenting a literature on medical segmentation.	I Listened to other students presenting on their literature. Tried training the models from presentation using AIURC web page.
29 June/ 4	Preparation stage	Preparing for literature survey presentation.	I prepared for my next literature survey presentation. I have read various research papers and decided which topic to present.
30 June/ 4	Preparation stage	Preparing for literature survey presentation.	I prepared for my next literature survey presentation. I have created ppt slides on my topic, EfficientNet model.

1 July/ 4	SURF Lit Survey Presentation 3	Presenting a literature on medical segmentation.	I presented my literature review on EfficientNet model. I have tried training the models from presentation using AIURC web page.
2 July/	Preparation stage	Study presentation again and try testing the model.	I have tried training the models from presentation using AIURC web page.
3 July/	Preparation stage	Study presentation again and try testing the model.	I have tried training the models from presentation using AIURC web page.
4 July/ 4	Preparation stage	Study presentation again and try testing the model.	I have tried training the models from presentation using AIURC web page.
5 July/ 4	SURF Lit Survey Presentation 4	Presenting a literature on medical segmentation.	I Listened to other students presenting on their literature. Tried training the models from presentation using AIURC web page. We then have divided ourselves into small groups to work on next activity.
6 July/ 8	UWMGI Competition	Create a predicting machine and get a score in the competition.	I have studied on the competition; reading what kind of dataset it provides and what I need to aim for. Then, our group has tried applicating one of the model that was presented in the previous literature review presentations.
7 July/ 8	UWMGI Competition	Create a predicting machine and get a score in the competition.	By looking at other people's codes submitted in the competition, our group has successfully trained and achieved scores.
8 July/ 8	SURF22 Progress Meeting 1	Presentation on what we have done so far.	Our team has presented progress on the joined competition, and reflected for future improvements. We also had discussions with other groups of which model works better.

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9 July/ 8	UWMGI Competition	Create a predicting machine and get a score in the competition.	Our team has tried other models by following the reflection and future improvements stated in the last meeting.
10 July/ 8	UWMGI Competition	Create a predicting machine and get a score in the competition.	I have tried training a model, but mine got debugging errors. I spent the whole day to try fix it. I could not get any scores from the competition.
11 July/ 8	UWMGI Competition	Create a predicting machine and get a score in the competition.	I tried fixing again, but still failed. However, other team members has done training, so we used that result.
12 July/ 8	SURF22 Progress Meeting 2	Presentation on what we have done so far.	Our team has presented progress on the joined competition, and reflected for future improvements. We also had discussions with other groups of which model works better.
13 July/ 8	UWMGI Competition	Create a predicting machine and get a score in the competition.	I have looked at other group's models, as well as more codes from the competition. We have decided to make some changes on dealing with dataset.
14 July/ 8	UWMGI Competition	Create a predicting machine and get a score in the competition.	Our team has tried training with 3D dataset instead of traditional 2D dataset. We have successfully achieved higher score.
15 July/ 8	SURF22 Progress Meeting 3	Presentation on what we have done so far.	Our team has presented progress on the joined competition, and reflected for future improvements. We also had discussions with other groups of which model works better.
16 July/ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	I have studied on the competition; reading what kind of dataset it provides and what I need to aim for.

17 July/ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	After analysis, I read the codes of other people from the competition.
18 July/ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	Our team have tried only one model based on other people's code. We couldn't get much outcome as other groups.
19 July/ 8	SURF22 Progress Meeting 4	Presentation on what we have done so far.	Our team has presented progress on the joined competition, and reflected for future improvements. We also had discussions with other groups of which model works better.
20 July/ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	I came up with an idea of preprocessing images. We tried tiling strategy.
21 July/ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	With such strategy, we also have tried other models and training many times.

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22 July/ 8	SURF22 Progress Meeting 5	Presentation on what we have done so far.	Our team has presented progress on the joined competition, and reflected for future improvements. We also had discussions with other groups of which model works better.
23 July/ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	I have tried with the same strategy but different sizes. Training took a lot of time with larger size, so I could not get any outcome.
24 July 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	There were lots of debugging errors occurred while training. I tried to fix them, then trained repeatedly. This also took a lot of time.
25 July/	HuBMAP Competition	Create a predicting machine	After training for the whole day, I could get a successful result that the accuracy increases of about 3

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8		and get a score in the competition.	percent. Also, our team has achieved of about 70 percent accuracy by combining two models together.
26 July/ 8	SURF22 Progress Meeting 6	Presentation on what we have done so far.	Our team has presented progress on the joined competition, and reflected for future improvements. We also had discussions with other groups of which model works better.
27 July/ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	We have found that the larger the image sizes are kept, the higher the accuracy gets.
28 July/ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	We have trained with the whole image, and resized so that image sizes are constant.
29 July/ 8	SURF22 Progress Meeting 7	Presentation on what we have done so far.	Our team has presented progress on the joined competition, and reflected for future improvements. We also had discussions with other groups of which model works better.
30 July/ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	I have thought of another plan, resizing the whole images into larger size compared to the previous works.
31 July/ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	Our team has used newly combined models and different stages of a model.
1 Aug./ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	Training them has achieved the higher accuracy of 70 percent.
2 Aug./ 8	SURF22 Progress Meeting 8	Presentation on what we have done so far.	Our team has presented progress on the joined competition, and reflected for future improvements. We also had discussions with other groups of which model works better.
3 Aug./ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	Our team has tried expansion method. Before applying expansion in the middle of the code, we have read other people's codes who have used

			expansion. Training came out to be successful.

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4 Aug./ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	We also have tried ensemble method, which is combination of different models. After training, we have found that using both strategies increases competition score largely.
5 Aug./ 8	SURF22 Progress Meeting 9	Presentation on what we have done so far.	Our team has presented progress on the joined competition, and reflected for future improvements. We also had discussions with other groups of which model works better.
6 Aug./ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	I have read research papers on transformer by referring to the suggestion from professor and from the competition discussion. After few readings, we have decided to use a swin-transformer.
7 Aug./ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	Before implementation, we have divided the images into 5 classes and analyzed accuracy for each of them.
8 Aug./ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	We have trained with swin transformer, but the outcome graph showed that it fails alone.
9 Aug./ 8	SURF22 Progress Meeting 10	Presentation on what we have done so far.	Our team has presented progress on the joined competition, and reflected for future improvements. We also had discussions with other groups of which model works better.
10 Aug./ 8	HuBMAP Competition	Create a predicting machine and get a	As referred to the reflection from last meeting, we have decided to combine one model with transformer that can reduce the problem.

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		score in the competition.	
11 Aug./ 8	HuBMAP Competition	Create a predicting machine and get a score in the competition.	Training resulted that it could decrease error, but the score got very low.
12 Aug./ 8	SURF22 Progress Meeting 11	Presentation on what we have done so far.	We have presented short summary of last few days. Because the deadline for uploading poster is coming, we have divided team again into two: Kaggle team and Poster team. I was allocated to poster team to think of the poster contents and design.
13 Aug./ 8	Poster creation	Write the poster contents.	Our team has created a shared document in our group to write the poster contents. I was decided to write the introduction part and also to adjust other parts after a small meeting in our group.
14 Aug./ 8	Poster creation	Write the poster contents.	I have searched for the contents on the internet and have chosen some research papers.
15 Aug./ 8	Poster creation	Write the poster contents.	I have written the introduction part. After finalizing, our group has created a first draft poster.
16 Aug./ 8	SURF22 Progress Meeting 12	Presentation on what we have done so far.	Our team has presented first draft of the poster design. We had discussions with the professor to make poster more visualizing.

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17 Aug./ 8	Poster creation	Make poster more visualizing.	I have designed a demo version of the poster and shared with group.

18 Aug./ 8	Poster creation	Make poster more visualizing.	Our team has gathered the ideas and referring to designs from internet, we have finalized our poster design.
19 Aug./ 8	SURF22 Progress Meeting 13	Presentation on what we have done so far.	Our team has presented a new designed poster. We had discussions with the professor to make the contents more compact.
20 Aug./ 8	Poster creation	Modify the poster contents.	By referring to the discussions we had from meeting, we have modified the poster contents in the shared document.
21 Aug./ 8	Poster creation	Modify the poster contents.	By referring to the discussions we had from meeting, we have modified the poster contents in the shared document.
22 Aug./ 8	Poster creation	Modify the poster contents.	By referring to the discussions we had from meeting, we have modified the poster contents in the shared document.
23 Aug./ 8	SURF2022 Final Metting	Presentation on what we have done so far.	Our team has presented final poster design with modified contents.
24 Aug./ 2	Poster creation	Finalize the poster	We have finalized the poster contents and design. One of our team member has uploaded the final poster on the group chat for confirmation.
25 Aug./ 2	Poster creation	Finalize the poster	We have added and modified a little bit to meet the poster requirement and finalized and confirmed it with professor for the very last time.
26 Aug./ 1	Poster submission	Submit SURF poster.	Successfully submitted SURF poster to the correct link.

Summary report 报告总结

You may want to include the below topics in your summary report:
报告总结可以包含以下几项内容：

- Description of the project / field / domain the student has work in.
  学生实习项目/领域/行业描述
- Description of tasks and responsibilities which the student has been assigned to.
  公司分配给学生的实习任务及工作职责描述
- Description of achievements, contributions or outcomes.
  学生实习成果描述
- Description of benefits and learning outcomes for the student.
  学生实习收获及学习成果描述
- Personal conclusion and impression of the work placement.
  学生个人总结及实习体会

Please write in English.

My project that I worked in is about medical image segmentation. This is determining and analyzing parts of organs or diagnosing diseases by training computer with provided medical images from a Kaggle Competition. During the project, students were responsible to work in a small group, to make accurate models, or to modify the image such as resolution for training. My contribution to the work is majorly do the research on what model will work well in the competition, by looking up and reading if the models presented in research papers are valuable to be applicated in our training. I also contributed to help my team members with simple codes.

Benefits and learning outcomes I could earn from this project are: teamwork and coding skills. First of all, because I worked as a team during the project and with frequent meetings, I could communicate with the team members with new modelling ideas. Not only with codes, but also I could successfully work on posters with group members. We have designed the poster together, had discussion after meeting to distribute each ones work. Lastly, I could look at the team members' codes and could improve mine. Thus, I have attempted to submit my own code in the competition, and could achieve a score.

Conclusively, I would love to work in this field if I get a chance. The topic of medical image segmentation is what I was gaining interest even before I applied for SURF project. And after finishing all the project works, I now am more interested of using Artificial Intelligence in medical field.

Student's Signature / 学生签名：_____Doyeon Kim_____

Comments from placement provider 实习单位意见

You may comment on the completion status of the work assignment, student's performance and cooperation, and so on.
意见可以包含工作完成情况、学生表现及配合情况等等。

In case the comments from placement provider are in Chinese only, students are required to provide an English translation.

I would like to confirm that student Doyeon Kim has completed her works as a team member in my SURF 2022 project.   As such, she has completed the work placement successfully.
Successful completion of the work placement 学生是否顺利完成实习   [x] Yes 是   [   ] No 否

Placement Provider's Signature / 实习负责人签名: __Erick Purwanto_

Contact Information / 联系方式: __erick.purwanto@xjtlu.edu.cn__

(Official Stamp / 公章)